DeviceAnywhere Enterprise Installation Guide

DeviceAnywhere™ 5.1 SP1

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DeviceAnywhere™ 5.1 SP1

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Contents

About This Document 5
Document Outline 5
Typographical Conventions 6
Contacting Support 6
Additional Documentation 6
1 Introduction 7
1.1 Components 7
1.2 General Installation Guidelines 8
2 DeviceAnywhere Infrastructure Requirements 9
2.1 Overview 9
2.2 System Size and Topology 9
2.3 System Requirements 10
2.3.1 Individual DeviceAnywhere Components 10
2.3.2 Standalone Installer 12
2.4 DeviceAnywhere Ensemble Server Guidelines 13
2.5 Ensemble Device Requirements 14
2.5.1 Hardware-Integrated Devices 14
2.5.2 Software-Integrated Devices 14
2.5.3 Express Devices 14
2.6 Rack Space Requirements 15
2.7 Power 16
2.8 Operating Conditions 16
2.9 Database Backup Requirements 16
2.10 High Availability Requirements 16
2.11 Network and Port Requirements 17
3 Network Configuration and Tests 19
3.1 Connectivity Requirements 19
3.2 Anti-Virus Settings 19
3.3 Test Procedures 19
3.3.1 Opening a Telnet Session to Test the Connection 19
3.3.2 Server Connectivity Tests 20
4 DeviceAnywhere Component Installation 21
4.1 SQL Database 21
4.1.1 Pre-requisites for Installation 21
4.1.2 Creating and Restoring a Database in SQL Server 2005 21
4.1.3 Configuring the Database 24

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4.2 Access Server 26
4.2.1 Connectivity Requirements 26
4.2.2 Installing the Access Server 26
4.2.3 Verifying Access Server Installation 30
4.3 IIS Web Server 30
4.3.1 Installing and Configuring IIS 30
4.3.2 Verifying IIS Server Installation 35
4.4 DeviceAnywhere Portal 36
4.4.1 Connectivity Requirements 36
4.4.2 Installing the DeviceAnywhere Portal 36
4.4.3 Creating a Customer 39
4.5 DeviceAnywhere License File 42
4.6 DeviceAnywhere Ensemble Server 43
4.6.1 Ensemble Server Installation 43
4.6.2 Verifying Ensemble Server Installation 53
4.7 DeviceAnywhere Studio 55
4.7.1 Connectivity Requirements 55
4.7.2 Installing DeviceAnywhere Studio on Windows 55
4.7.3 Installing DeviceAnywhere Studio on Mac OS X 59
4.8 Ensemble Devices 59
4.8.1 Importing a Device to the Database 60
4.8.2 Provisioning Packages with Devices 60
4.8.3 Assigning Packages to User Groups 62
4.8.4 Verifying Device Installation 62
5 DeviceAnywhere Standalone Installer 63
6 DeviceAnywhere System Verification 68
6.1 Restarting the Access Server 68
6.2 Verifying DeviceAnywhere Functionality 69

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About This Document

This DeviceAnywhere Enterprise Installation Guide outlines the requirements and procedures for installing a DeviceAnywhere test environment for mobile devices. With DeviceAnywhere, you can interact with and control real, live devices in order to automate the testing of your mobile application, service, or device. You can also monitor crucial QoS metrics and create reports and analyze trends.

If you are upgrading your DeviceAnywhere installation, please contact your Technical Account Manager (TAM) for procedures on how to backup your database, upgrade the database schema, de-install existing software components, and install new components for a successful upgrade.

Document Outline

In this document:

Introduction lists the components of a DeviceAnywhere installation and the order in which they are installed.

DeviceAnywhere Infrastructure Requirements describes the configuration of different sized installations. It also lists system requirements, rack space needed, network ports used, mobile device requirements, and power and operating conditions.

Network Configuration and Tests describes connectivity requirements and procedures to test connectivity among DeviceAnywhere components.

DeviceAnywhere Component Installation contains step-by-step instructions for installing and verifying:

- DeviceAnywhere SQL Database
- Access Server to control all DeviceAnywhere components
- IIS Web Server
- DeviceAnywhere Portal and the default customer
- DeviceAnywhere License File
- DeviceAnywhere Ensemble Server for communicating with devices
- DeviceAnywhere Studio client software
- Ensemble Devices (adding to the database)

DeviceAnywhere Standalone Installer describes how to install bundled components in the DeviceAnywhere standalone installer for small deployments.

DeviceAnywhere System Verification contains tests and procedures to verify your DeviceAnywhere test environment.

Typographical Conventions

The table below describes the typographical conventions used in DeviceAnywhere documentation.

Style	Element	Examples
Blue	Links and email addresses, cross-references	http://www.deviceanywhere.com The Document Outline section on this page describes the structure of this manual.
Bold	User interface elements such as menu items	Click **My Devices** in the **Test Center** panel of DeviceAnywhere Studio.
`Monospace`	Commands, code output, filenames, directories	Place the device profile XML file in your DeviceAnywhere Studio installation's `smartphoneXMLs` directory.
`Monospace bold`	User input	In a command window, type **`ipconfig`**.
Italic	Document titles and emphasis	Refer to the *DeviceAnywhere Enterprise Installation Guide* for instructions on setting up server infrastructure.

Contacting Support

If you have any comments or suggestions regarding this document, contact the DeviceAnywhere support organization for enterprise customers at mcsupport@deviceanywhere.com. You may also send your inquiries about DeviceAnywhere product demonstrations and consulting services to this address.

Customers can find additional support information at http://www.deviceanywhere.com/enterprise-support.html.

Additional Documentation

You can find additional information in the documents available at http://www.deviceanywhere.com/enterprise-documentation.html.

Platform-specific onboarding guides for software-integrated devices are available at this address.

You can access the following documents from the **Help** menu in the DeviceAnywhere Studio:

- *DeviceAnywhere Test Center User Manual for Enterprise Deployments*
- *DeviceAnywhere Release Notes*

1 Introduction

This chapter lists the components required for installing DeviceAnywhere with the names of installers. This chapter also discusses installation guidelines and the order in which to install components. (Component-specific guidelines and instructions can be found in the respective installation chapter.)

NOTE Installing bundled components using the DeviceAnywhere standalone installer is covered in DeviceAnywhere Standalone Installer. See also System Size and Topology and System Requirements for the standalone installer.

1.1 Components

You must install the following components contained provided by DeviceAnywhere in order to deploy a DeviceAnywhere test environment:

- DeviceAnywhere SQL Server Database (You must also acquire a license for and install SQL Server 2005)—Manages information on users, devices, device usage, test assets, etc.
- Access Server (`AccessServer.exe` for 32-bit systems, `AccessServer64.exe` for 64-bit systems)—The core component and controller of the DeviceAnywhere test environment
- DeviceAnywhere Portal (`EnterprisePortal.exe`)—Web portal for managing user accounts and test results
- DeviceAnywhere Ensemble Server, Team or Individual version (`EnsembletTeamServer.exe` or `EnsembleIndividualServer.exe`) –Server that communicates with mobile devices
- DeviceAnywhere Studio client software (DeviceAnywhereStudio.exe)—Client interface for interacting with devices and creating and running test scripts
- DeviceAnywhere license XML file with licenses for the DeviceAnywhere modules you wish to use
- Device profile XML files, procured from DeviceAnywhere (generally one for each device to be added to the system)

NOTE Components of the DeviceAnywhere test environment require a network connection to communicate with each other.

The following components are included in the DeviceAnywhere installation package and are automatically installed with the DeviceAnywhere Portal:

- .NET 3.5 runtime framework
- Microsoft ASP .NET AJAX Extension (ASP AJAX 1.0)
- Microsoft WSE 3.0

In addition, you must install:

- SQL Server 2005 or higher (Express, Standard, or Enterprise) on the machine hosting the DeviceAnywhere database

  For specific information on SQL Server installation, refer to Microsoft SQL Server documentation.
- IIS Server v6 on the machine hosting the DeviceAnywhere Portal

- JDK 1.5+ if installing DeviceAnywhere Studio on Macintosh machines

1.2 General Installation Guidelines

Start Here—before attempting to install the DeviceAnywhere test environment, please review the DeviceAnywhere Infrastructure Requirements chapter of this manual in detail. In particular, review the system size and topology options and system requirements so you can determine your hardware needs. Your DeviceAnywhere technical account manager (TAM) can assist you with designing your deployment configuration.

Order of Component Installation—Please install components in the order listed below. You must start with installing SQL Server and loading the database before continuing with the standard installation process.

DeviceAnywhere components are installed in this order:

1 SQL Server 2005 and DeviceAnywhere database

2 Access Server

3 DeviceAnywhere Portal (you must already have installed the IIS Server)

4 License file

5 DeviceAnywhere Ensemble Server

6 DeviceAnywhere Studio

7 Devices (adding to database)

NOTE If using the DeviceAnywhere standalone installer, steps 1 – 3 with the installation of bundled components, described in DeviceAnywhere Standalone Installer

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The remainder of this document will walk you through the installation process, starting with a section on configuring your deployment, then testing your network configuration, and then addressing installation of each of the above components in turn. Finally, this document will cover how to verify that your installation is successful.

2 DeviceAnywhere Infrastructure Requirements

This section provides guidelines for purchasing hardware, allocating rack space, estimating network and power requirements, and setting up the data center(s) for your DeviceAnywhere test environment. When you have finished reviewing this section, you should be able to set up and connect the hardware components of your DeviceAnywhere installation.

2.1 Overview

Depending on the number of devices and locations in your DeviceAnywhere installation, your hardware requirements will vary. When planning your deployment, consider the following:

- System size and topology
- System requirements
- DeviceAnywhere Ensemble Server guidelines
- Ensemble device requirements (mobile devices attached to the Ensemble Server)
- Rack space requirements
- Network and port requirements
- Power and operating conditions
- Database backup requirements
- High availability requirements

2.2 System Size and Topology

DeviceAnywhere supports deploying test environment components both in a single location or distributed over more than one location. In a distributed system, core components are housed in the same physical location while the DeviceAnywhere Ensemble Server(s) and attached devices may be deployed across remote locations.

Table 2-1 provides a description of small, medium, and large deployments and outlines the recommended hardware to support installation.

Table 2-1 Deployment Sizes

Size	Description
Small	A small deployment contains from 1 – 6 devices attached to an Ensemble Server. ◆ Computer 1: SQL Server and DeviceAnywhere database, Access Server, DeviceAnywhere Portal (installed using the DeviceAnywhere Standalone Installer) ◆ Computer 3: Ensemble Server (less than 6 devices)

Size	Description
Medium/Large	A *medium* deployment supports a total of 1 – 12 devices attached to Ensemble Servers. A *large* deployment supports more than 12 devices attached to Ensemble Servers. Components of medium or large deployments are installed separately. The total number of computers you need will depend on the number of devices that can be attached to each Ensemble Server for best performance. ◆ Computer 1 = SQL Server and DeviceAnywhere database ◆ Computer 2 = Access Server, DeviceAnywhere Portal ◆ Computer 3 = Ensemble Server for 2 – 6 devices ◆ Computer 4 = Ensemble Server for 2 – 6 devices ◆ Add Ensemble Servers as required.

NOTE If you have any questions about installation or designing your deployment, e.g., whether the standalone installer is the right deployment option for your mobile testing needs, contact your TAM or email mcsupport@deviceanywhere.com.

2.3 System Requirements

This section describes the hardware requirements and operating systems tested for individual DeviceAnywhere components as well as the combined standalone installer.

2.3.1 Individual DeviceAnywhere Components

Minimum requirements and operating systems tested for individual DeviceAnywhere components are:

Table 2-2 Minimum System Requirements for Individual Components

DA Component	Hardware/Software	Requirement	Notes
Database Server	Processor speed	2GHz Pentium 4 (dual core)	The Express Edition of Microsoft SQL Server 2005 only supports databases up to 4 GB in size.
	Memory	2GB RAM	
	Hard drive space	180GB (as needed)	
	Database	Microsoft SQL Server 2005 or higher (Express, Standard, or Enterprise Edition) *On Windows XP, SQL Express requires SP3, or alternatively, SP2 with Hot Fix for SQL Express and Windows Installer 3.0.*	
	Operating system	◆ Windows XP SP3, or SP2 with Hot Fix for SQL Express and Windows Installer 3.0 ◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008 *32 and 64 bit supported on Windows.*	
Access Server	Processor speed	2GHz Pentium 4 (dual core)	50 concurrent users
	Memory	2GB RAM	
	Hard drive space	10GB	
	Operating system	◆ Windows XP SP2	

DA Component	Hardware/Software	Requirement	Notes
		◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008 *32 and 64 bit supported on Windows.*	
DeviceAnywhere Portal	Processor speed	2GHz Pentium 4 (dual core)	100 concurrent users supported (only 10 on Windows XP)
	Memory	2GB RAM	
	Hard drive space	10GB	
	Operating system	◆ Windows XP SP2 ◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008 *32 and 64 bit supported on Windows.*	
	Client-side browser	◆ Google Chrome ◆ Internet Explorer ◆ Firefox ◆ Safari	
	Additional software	IIS Server v6 *.NET 3.5 runtime framework, ASP AJAX 1.0, and WSE 3.0 are provided by DeviceAnywhere*	
DeviceAnywhere Ensemble Server (Team or Individual version)	Processor speed	2GHz Pentium 4 (dual core)	◆ Maximum of 2 – 6 concurrently attached devices supported. ◆ Install this component on a separate machine from other server components for optimum performance.
	Memory	2GB RAM	
	Hard drive space	10GB	
	Operating system	◆ Windows XP SP2 ◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008 *Ensemble Server is compatible with Windows 7 64 bit. Only 32 bit supported on other Windows systems.*	
	USB ports	USB 2.0 ports *Number of ports per device varies – Express devices require three ports; directly attached smartphones require one or none.*	
DeviceAnywhere Studio	Processor speed	2GHz Pentium 4	
	Memory	2GB RAM	
	Hard drive space	10GB	
	Operating system	◆ Windows XP SP2 ◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008 *32 and 64 bit supported on Windows.*	

DA Component	Hardware/Software	Requirement	Notes
		◆ Mac OS *JDK v1.5 or higher must be installed for Mac.*	
	Screen resolution	1024 x 768 or higher	
	Additional	◆ Optional audio card for sound input/output ◆ JDK v1.5+ for Mac	
Optional component: DeviceAnywhere HP Functional Test software Add-In	Operating system	◆ Windows XP SP2 ◆ Windows 2003 ◆ Windows 7 *Only 32 bit supported on Windows XP and 2003. Both 32 and 64 bit (in 32-bit compatibility mode) supported on Windows 7.*	For other system requirements, refer to the requirements for DeviceAnywhere Studio and HP Functional Test.
	Required software	◆ HP Functional Test v9.5, 10.0, or 11.0 ◆ DeviceAnywhere Studio v5.1 or later	

NOTES Please consult your DeviceAnywhere TAM to ensure that using the standalone installer is the right deployment option for your mobile testing needs.

Components of the DeviceAnywhere test environment require a network connection to communicate with each other.

DeviceAnywhere Individual Ensemble Server and Studio software may be installed on the same machine.

If you have any questions about installation or designing your deployment, contact your TAM or email mcsupport@deviceanywhere.com.

2.3.2 Standalone Installer

The standalone installer provided by DeviceAnywhere consists of the following bundled components:

- SQL Server 2005, Express database software
- DeviceAnywhere database
- Access Server
- DeviceAnywhere Portal
- .NET 3.5 runtime framework
- Microsoft ASP .NET 2.0 AJAX Extension (ASP AJAX 1.0)
- Microsoft WSE 3.0

NOTES Components of the DeviceAnywhere test environment require a network connection to communicate with each other.

The Express Edition of Microsoft SQL Server 2005 only supports databases up to 4GB in size.

.NET 3.5, the ASP AJAX Extension, and WSE are required for the DeviceAnywhere Portal.

Standalone installer requirements:

Table 2-3 Minimum System Requirements for Standalone Installer

Hardware/Software	Requirement	Notes
Processor speed	2GHz Pentium 4 (dual core)	
Memory	◆ 3GB RAM for 32-bit systems ◆ 4GB RAM for 64-bit systems	
Hard drive space	50GB	
Operating system	◆ Windows XP SP3, or SP2 with Hot Fix for SQL Express and Windows Installer 3.0 ◆ Windows Server 2003 ◆ Windows Vista ◆ Windows 7 ◆ Windows Server 2008	*32 and 64 bit supported on Windows.*
Additional software	◆ IIS Server v6 ◆ For Windows XP SP2, Windows Installer 3.0 ◆ For Windows XP SP2, Hot Fix for SQL Express	

2.4 DeviceAnywhere Ensemble Server Guidelines

Devices—A typical DeviceAnywhere Ensemble Server supports up to six devices. Smartphones and other high-resolution, large-screen devices require more processing power than feature phones for data transfer; an Ensemble Server might need to host fewer than six smart devices. In addition, the number of devices being used concurrently as well as the type of operations being performed (e.g., image comparisons) can impact the number of devices that can be supported. The Individual version of the Ensemble Server supports only two devices concurrently attached to the server.

Ensemble Server Type—Remote access to devices requires the Team Ensemble Server version.

The DeviceAnywhere Individual Server license supports one server, one client, and two devices concurrently attached to the server.

DeviceAnywhere Studio—DeviceAnywhere Individual Ensemble Server and Studio client software may be installed on the same machine.

Connectivity Requirements—Ensemble Servers have following connectivity requirements:

- Ensemble Servers must be able to connect to the Access Server.
- Ensemble Devices must be connected to the Ensemble Server machine.
- DeviceAnywhere Studio users must be able to connect to the Ensemble Servers.

IMPORTANT If access to devices over the Internet is required, the Ensemble Servers need external IP addresses.

Contact your Technical Account Manager (TAM) to help determine the proper device allocation on each Ensemble Server for your specific deployment.

2.5 Ensemble Device Requirements

Mobile devices attached to a DeviceAnywhere Ensemble Server are referred to as Ensemble devices. The requirements for Ensemble devices vary depending on the type of patented DeviceAnywhere device control methodology employed.

2.5.1 Hardware-Integrated Devices

The Direct-to-Device™ Hardware methodology is used to control hardware-integrated devices. Device input/output controls are hardwired to a casing, which is attached to an Ensemble Server.

Hardware-integrated Ensemble devices require the following:

- Power outlet for hardware-integrated device casing

NOTE DeviceAnywhere provides the power supply for the device casing: 6V DC @ 3A (12W)

- USB 2.0 (480Mbps) port on Ensemble Server for connection to hardware-integrated device case
- Optional: Second USB 2.0 port on Ensemble Server for data cable to hardware-integrated device
- Optional: Device battery charger

2.5.2 Software-Integrated Devices

The Direct-to-Device Software methodology is used to control software-integrated devices. Devices are connected to the Ensemble Server via USB cable or wirelessly, via Wi-Fi or Bluetooth.

Software-integrated Ensemble devices require the following:

- Some software-integrated devices require one available USB 2.0 port on the Ensemble Server—check the appropriate platform-specific onboarding guide at http://www.deviceanywhere.com/enterprise-documentation.html.
- Platform-specific software prerequisites for onboarding smartphone(s) are detailed in the appropriate platform-specific onboarding guide.

2.5.3 Express Devices

The Direct-to-Device Express methodology is used to control Express devices. These devices are housed in the Express chassis with removable device trays and a camera for viewing device output. The chassis is plugged in to the Ensemble Server.

In addition to the Express chassis, device tray(s), three USB cables (with Standard B connectors at one end and Standard A connectors at the other), and power cable provided by DeviceAnywhere, you require:

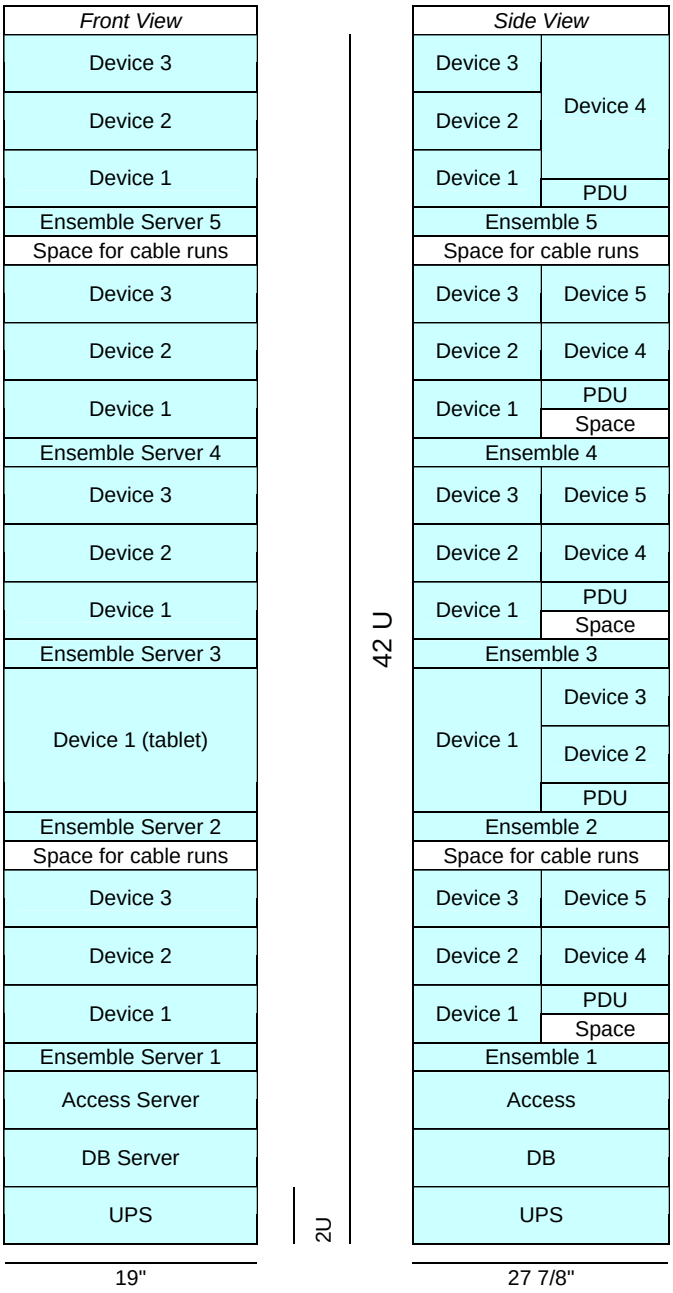
- Power outlet for the Express chassis
- At least three available USB 2.0 ports on the Ensemble Server
- Platform-specific software prerequisites for onboarding smart devices are detailed in the appropriate DeviceAnywhere setup guide at http://www.deviceanywhere.com/enterprise-documentation.html

NOTE Hardware-integrated Express devices first need to be hardwired to their trays by DeviceAnywhere.

2.6 Rack Space Requirements

After sizing your installation, you should consider the rack space required. Racks can be filled either front only or front and back. Figure 2-1 shows the front and side view of a rack. Our recommended rack equipment can be found at http://www.racksolutions.com/server-racks-cabinets-enclosures.html.

Figure 2-1 Rack Front and Side Views



The rack units needed for each component of DeviceAnywhere is given in Table 2-4 below.

Table 2-4 Rack Space Requirements

Server/Client Computers	Description
SQL Server and database	2U rack mountable-server
Access Server, DeviceAnywhere Portal	2U rack mountable-server
DeviceAnywhere Ensemble Server	1U or 2U rack-mountable server (must support USB cards)
Ensemble Device (hardware integrated)	2U or 5U (for tablet devices) **NOTE** Ensemble device casings only take up the front of the rack space; for every 2U of rack space, you can install one case in the front and one in the back.
PDU	1U

Once the rack has been constructed, insert the servers according to Figure 2-1. In general, the core servers should be placed at the bottom of the rack.

An example data center rack layout supporting 24 mobile devices is illustrated in Figure 2-2.

NOTE DeviceAnywhere recommends rack-mounting hardware-integrated devices; however, this is not a requirement. In smaller deployments it might be easier to stack devices in a lab area or on a desk.

2.7 Power

In general, each rack requires a 20A circuit to power the servers and the Ensemble devices. Servers require between 1.5A and 3A of power. The power requirement for devices is not significant compared to that of the Windows servers (15 devices = 1A).

Plug primary and redundant power cables into separate PDUs but use the same port scheme for simplicity.

2.8 Operating Conditions

Ensemble devices should be maintained under the following operating conditions:

- Operating temperature: 15C – 25C
- Storage temperature: 15C – 25C

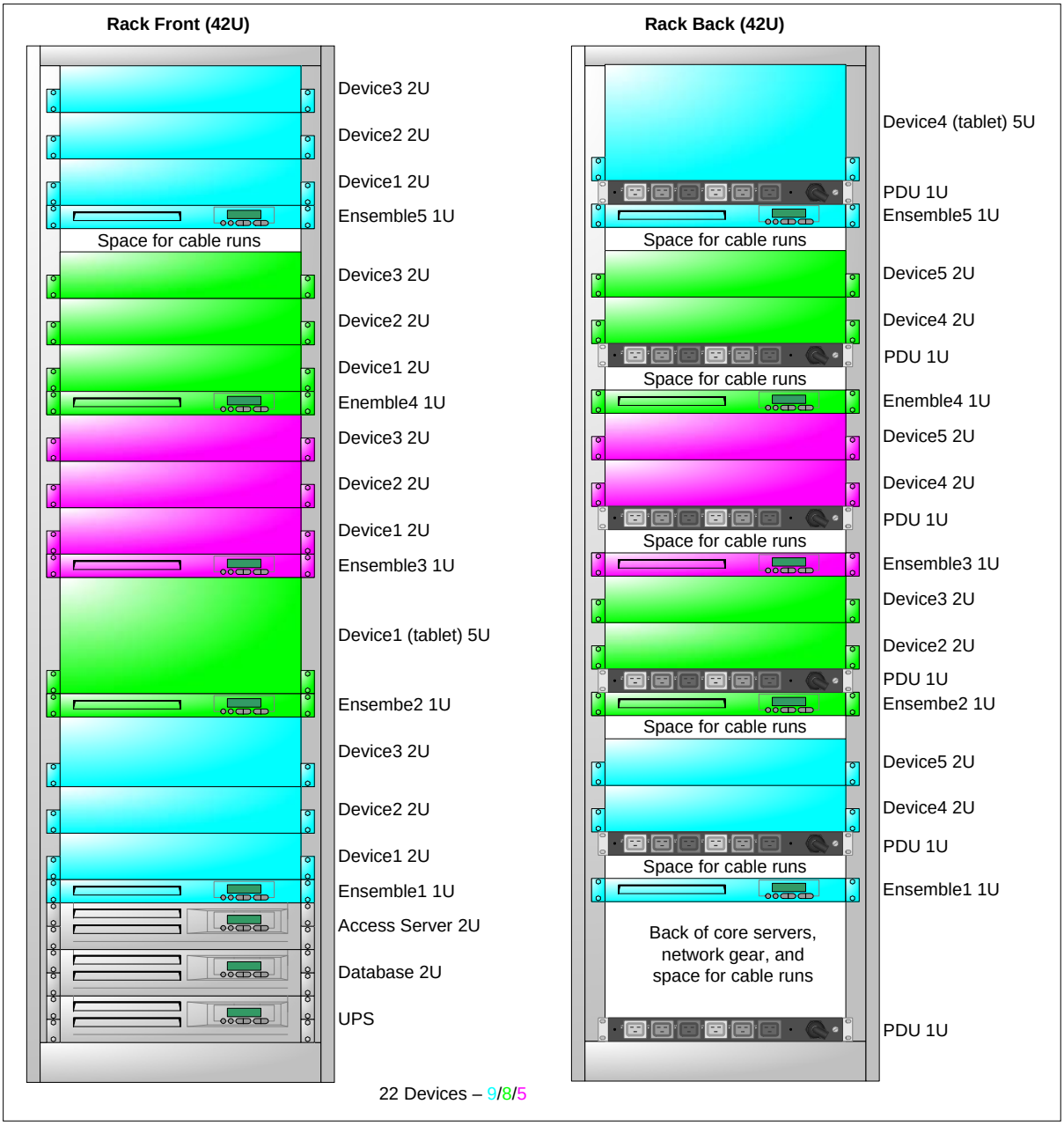
2.9 Database Backup Requirements

Consider procedures to back up the database on a regular basis. The database is the only part of the DeviceAnywhere technology stack that needs to be backed up. All the other components of the system are stateless and can quickly be restored by re-installing the software. It is extremely important to back up the database regularly.

2.10 High Availability Requirements

Install an Uninterrupted Power Supply (UPS) in each rack for maximum uptime.

Figure 2-2 Example Data Center Rack Layout—24 Devices



2.11 Network and Port Requirements

The DeviceAnywhere software components communicate with each other over TCP/IP. Before you begin the installation, make sure that you have configured all the required ports based on the port requirements outlined in Table 2-5. Default port settings are listed here.

Table 2-5 Port Requirements

DeviceAnywhere Servers	Description	Open Ports
SQL Server 2005 Database	The Access Server and the DeviceAnywhere Portal communicate with the database. The default SQL Server port is 1433.	1433
Access Server	All DeviceAnywhere Studio clients and the DeviceAnywhere Portal server must be able to communicate with the Access Server over TCP/IP on port 443. Users are authenticated through the Access Server.	443 6232 – Reserved for future Web services
DeviceAnywhere Portal	The DeviceAnywhere Portal is a Web portal for system administration and for viewing test results. It is a Web application running on the standard Web port, 80.	80
DeviceAnywhere Ensemble Server	The Ensemble Server communicates with Ensemble devices. Users interacting with devices in DeviceAnywhere Studio communicate on port 443 with the Ensemble Server. This server must therefore accept inbound traffic on port 443. The Ensemble Server must also be able to send outbound communication to the Access Server on port 443. **NOTE** The Access Server and Ensemble Servers should be installed on different computers.	443 - In 443 - Out
DeviceAnywhere Studio	DeviceAnywhere Studio is the client software used to access devices and create test assets. All server components above, with the exception of the Database Server, must be accessible from DeviceAnywhere Studio.	N/a

NOTE The ports used in the DeviceAnywhere are configurable. Consult your TAM for further information on using different ports.

3 Network Configuration and Tests

Once you have set up the hardware for your DeviceAnywhere installation in one or more data centers based on the size and topology of your system, you should review your port assignments and test communication through the use of Telnet commands.

3.1 Connectivity Requirements

The following connectivity requirements are needed for a DeviceAnywhere installation:

- The Access Server and DeviceAnywhere Portal must be able to connect to the central database.
- DeviceAnywhere Studio users must be able to connect to the Access Server by providing its IP address/machine name appended with the Access Server port (this documented in DeviceAnywhere Studio Installation for Windows). If a user needs to access the test environment over the Internet, then external IP Address is required.
- DeviceAnywhere Studio must be able to connect to the DeviceAnywhere Ensemble Server(s) to acquire devices.
- All other DeviceAnywhere server components such as the Enterprise Portal and distributed Ensemble Server must be able to connect to the Access Server by providing its IP address/hostname.

3.2 Anti-Virus Settings

Some anti-virus software has port filtering settings turned on for port 443 by default. Since all data communication between DeviceAnywhere Studio and DeviceAnywhere servers occurs on port 443, this can delay response time. Remove port filtering on port 443 to correct the problem.

NOTE Kaspersky Anti-virus software has port filtering turned on for port 443 by default. If the Access Server is configured on a port other than 443, remove port filtering on that port.

There are some default port assignments that facilitate communication between the DeviceAnywhere servers; see “Table 2-5 Port Requirements” in DeviceAnywhere Infrastructure Requirements.

NOTE The ports used in the DeviceAnywhere are configurable. Consult your TAM for further information on using non-default ports.

3.3 Test Procedures

Before installing DeviceAnywhere software components, execute the tests described in Table 3-1 below. These tests are based on default port settings. If you wish to configure your ports differently, then substitute your port numbers where applicable in these tests. Make sure to verify the connection between all the components of the DeviceAnywhere installation.

3.3.1 Opening a Telnet Session to Test the Connection

Use the `telnet` command in a DOS command prompt window to test your port settings and communication between software components.

Start a Telnet session on a Windows machine:

1 Go to the **Start** menu and select **Run**.

2 Type `cmd` to bring up a DOS command prompt window.

3 Type the `telnet` command in the window in the format shown:

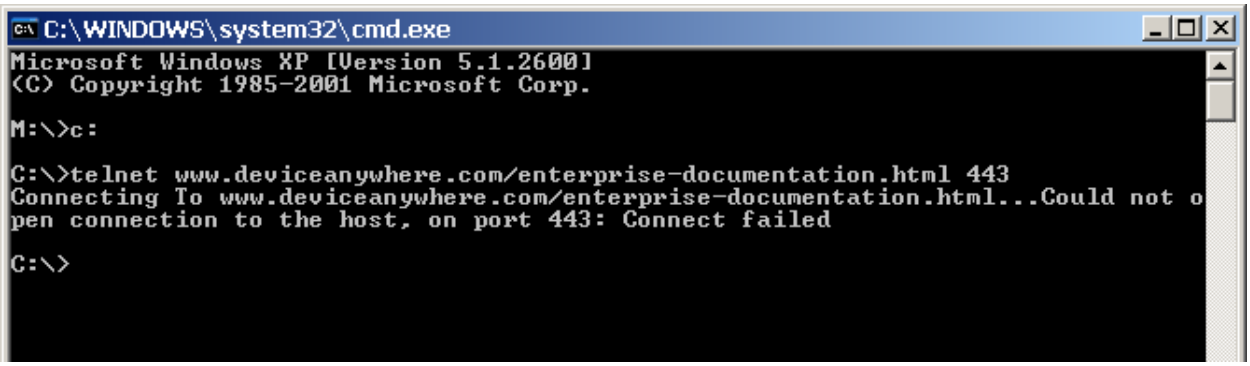
```
telnet <IP_Address> <Port_Number>
```

Results:

- When access to the server in question is successful, the DOS window appears blank.
- When access to the server in question is unsuccessful, you will see an error message.

Figure 3-1 below illustrates the error message generated when access to a server fails. In this example, an attempt was made to connect to www.deviceanywhere.com/enterprise-documentation.html on port 443. Repeat this procedure to run all the tests listed in Table 3-1 below.

Figure 3-1 Telnet Error Message



3.3.2 Server Connectivity Tests

Table 3-1 DeviceAnywhere Server Connectivity Tests

#	Action	Expected Result
1	*Action*: Open a Telnet session from one of the client machines to port 443 on the machine that is to host the Access Server. *Command*: **`telnet <Access_Server_IP> 443`**	DOS command prompt window appears blank.
2	*Action*: Open a Telnet session from one of the client machines to port 80 on the machine that is to host the DeviceAnywhere Portal. *Command*: **`telnet <Portal_Server_IP> 80`**	DOS command prompt window appears blank.
3	*Action*: Open a Telnet session from each Ensemble Server machine to Port 443 on the machine that is to host the Access Server. *Command*: **`telnet <Access_Server_IP> 443`**	DOS command prompt window appears blank.
4	*Action*: Open a Telnet session from the Access Server to port 1433 on the machine that is to host the Database Server. *Command*: **`telnet <DB_Server_IP> 1433`**	DOS command prompt window appears blank.
5	*Action*: Open a Telnet session from the DeviceAnywhere Portal server to port 1433 on the machine that is to host the Database Server. *Command*: **`telnet <DB_Server_IP> 1433`**	DOS command prompt window appears blank.

4 DeviceAnywhere Component Installation

This section describes the procedures for installing individual DeviceAnywhere components and devices to deploy the DeviceAnywhere test environment. At this point, you should have determined the size of your system, set up your data center, and tested the connectivity between DeviceAnywhere components.

NOTE See DeviceAnywhere Standalone Installer for installing bundled components using the standalone installer.

This chapter will take you through each of these following steps in order:

1 Creating and restoring a blank DeviceAnywhere database (you need to have already installed and configured SQL Server 2005)

2 Installing the Access Server

3 Installing and configuring IIS

4 Installing the DeviceAnywhere Portal

5 Creating a customer instance

6 Placing the enterprise customer license provided by your Technical Account Manager

7 Installing the DeviceAnywhere Ensemble Server(s)

8 Installing DeviceAnywhere Studio on client machine(s)

9 Adding device information to the database

4.1 SQL Database

This section contains the steps required to set up the DeviceAnywhere SQL database.

4.1.1 Pre-requisites for Installation

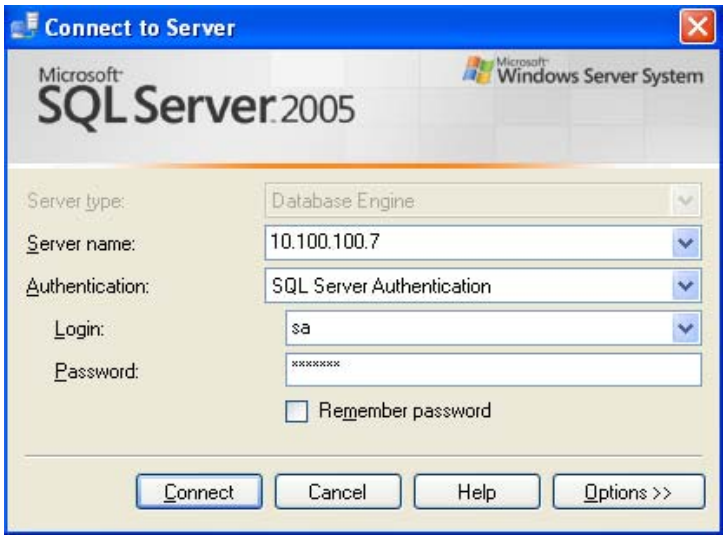
- SQL Server 2005 (or higher) installed and set up to use mixed mode authentication
- SQL Server Management Studio—this is required to create a new database.
- SQL Server Configuration Manager—this is required to make database configuration changes that allow the Access Server and the DeviceAnywhere Portal server to communicate with the database.
- The DeviceAnywhere database backup file `complete_da.bak`

4.1.2 Creating and Restoring a Database in SQL Server 2005

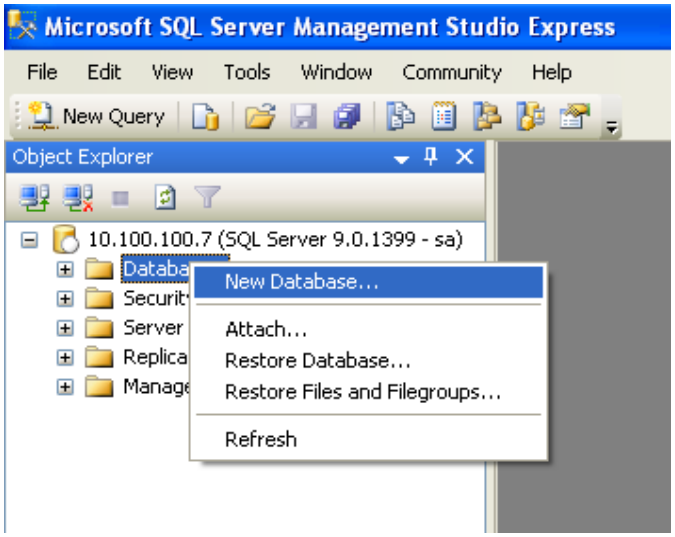
You must first create a new database and then restore the DeviceAnywhere database.

1 Place the DeviceAnywhere database backup file in an appropriate location in the Database Server, e.g., `C:/DA Databases/complete_da.bak`.

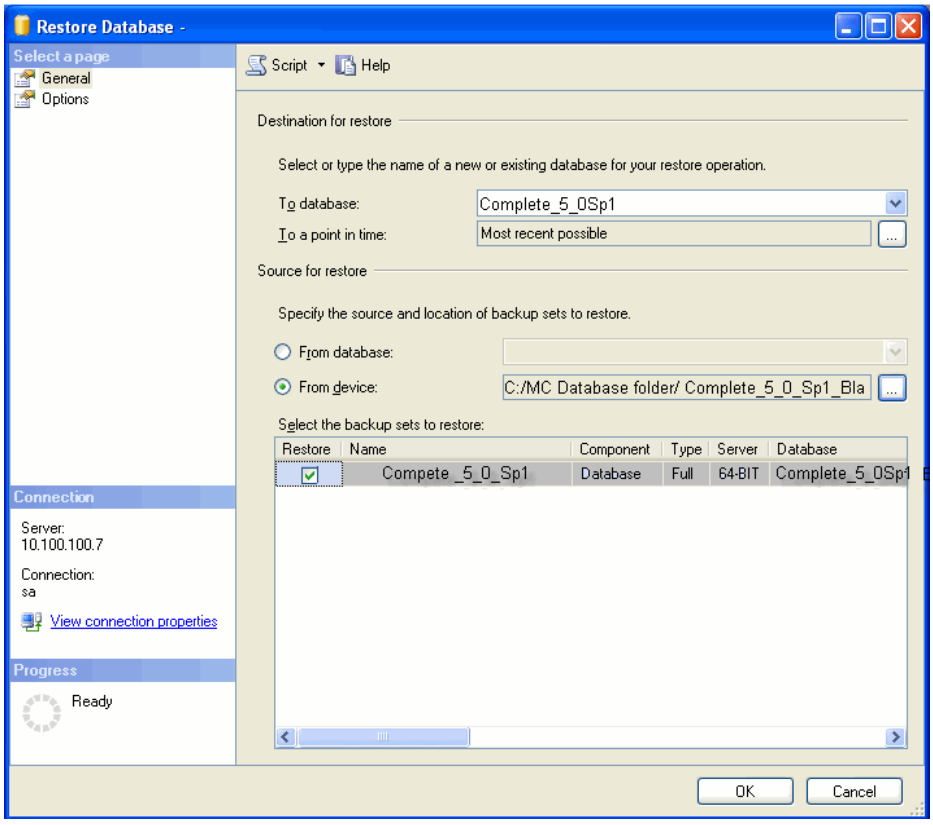
2 Launch SQL Server 2005 Management Studio and log in.



3 Right-click **Object Explorer** and choose **New Database** to create a new database.



4 Right-click the newly created database and select **Restore Database**.



5 In the Restore Database dialog box:

a Enter a name for the database in the **To database** field.

b Select the option **From device** and browse to the blank database backup location. Select the `.bak` file and click **OK**.

c Check the **Restore** box next to the name of the database and click **OK**.

d In the **Options** tab, select **Overwrite the existing database** and click **OK**.

In a few moments, the database restoration should be complete.

If you do not see this message, contact your Technical Account Manager for assistance.

6 Now that you have successfully installed the database, you must refresh it in order to see it listed in the Object Explorer.

4.1.3 Configuring the Database

You must configure the database to allow the Access Server and the DeviceAnywhere Portal server to communicate with it.

1 Launch SQL Server Configuration Manager: **Start** > **Programs** > **Microsoft SQL Server 2005** > **Configuration Tools** > **SQL Server Configuration Manager**

2 Select a **Protocol**(s) for your SQL Server 2005 database and enable it by right-clicking and selecting **Enable**. Protocols include Named Pipes, TCP/IP, VIA. See Figure 4-1, Figure 4-2, and Figure 4-3.

3 Click **OK** and then restart the SQL Server service from the Service menu. The database is now configured to allow communication from the Access Server and the DeviceAnywhere Portal server.

Figure 4-1 Named Pipes

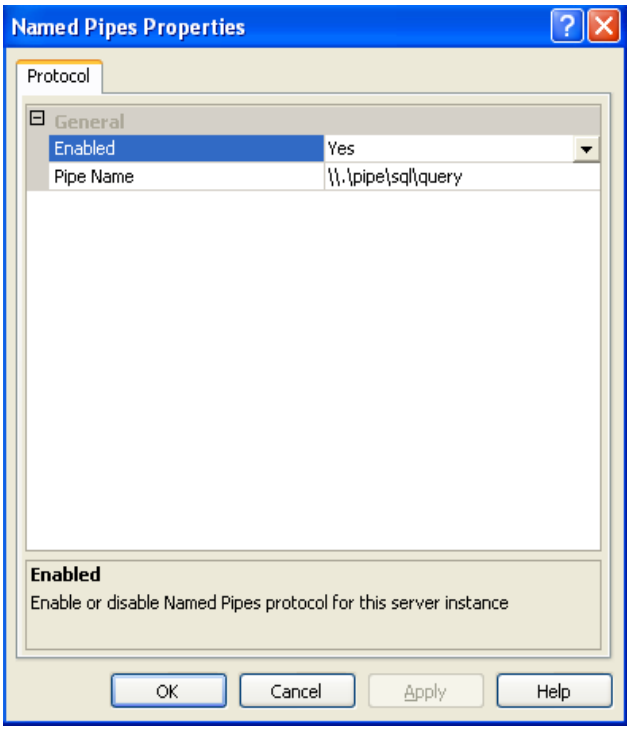


Figure 4-2 TCP/IP

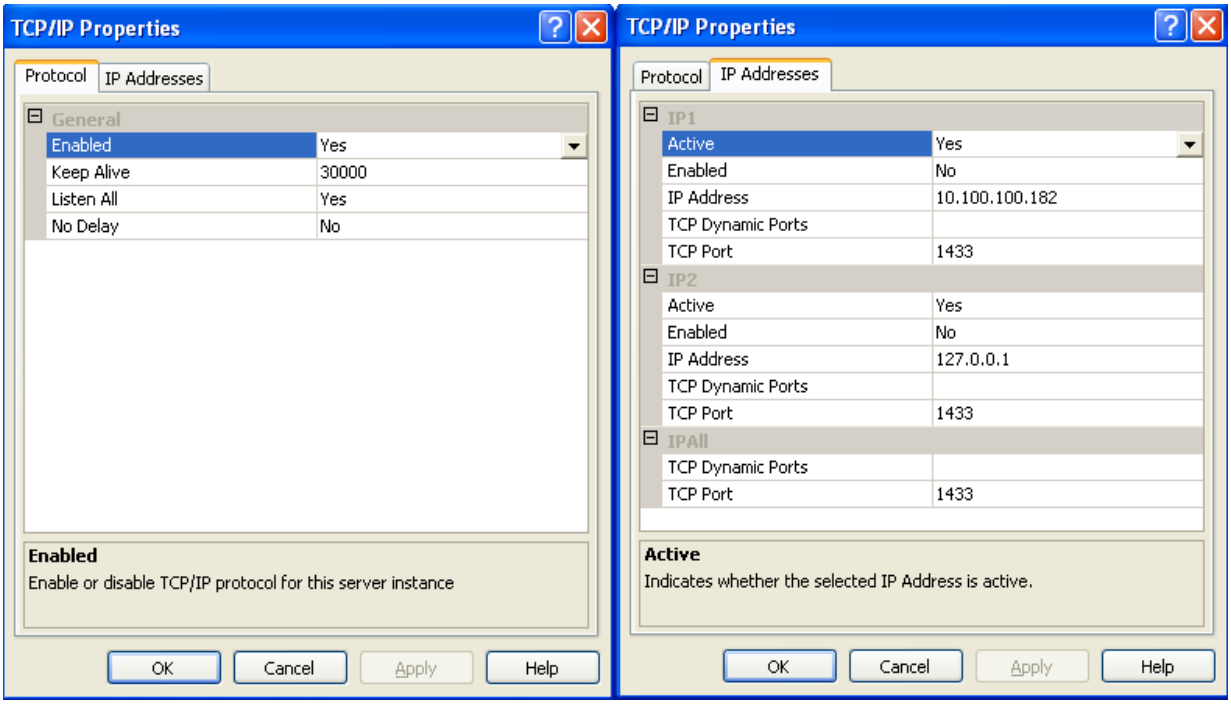
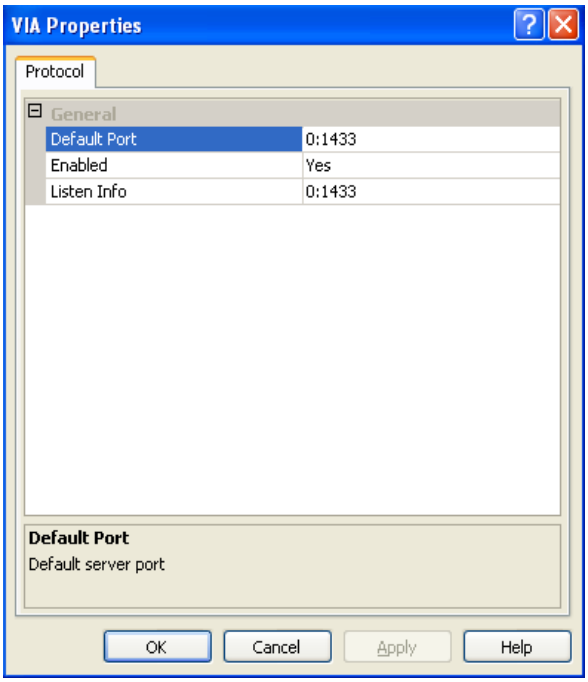


Figure 4-3 VIA



4.2 Access Server

The Access Server controls the DeviceAnywhere test environment by controlling all communication between other servers and the database. The Access Server manages the data generated from DeviceAnywhere Studio and stored in the SQL Server database. There can only be only one Access Server per DeviceAnywhere test environment. All users and servers in the environment must be able to connect to the Access Server. The Access Server can be viewed as a thin layer providing authentication and synchronization between the other servers and the central database.

4.2.1 Connectivity Requirements

The Access Server has following connectivity requirements:

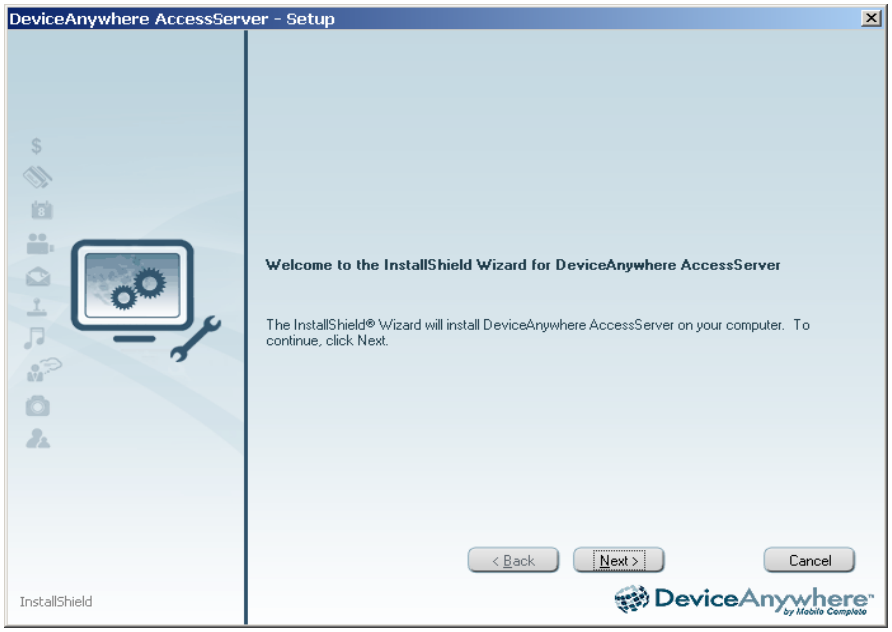
- The Access Server must be able to connect to the Database Server.
- DeviceAnywhere Studio users must be able to connect to the Access Server by providing its IP address/machine name appended with the Access Server port (this documented in DeviceAnywhere Studio Installation for Windows).
- All other DeviceAnywhere server components such as the Enterprise Portal and distributed Ensemble Servers must be able to connect to the Access Server by providing its IP address/hostname.

4.2.2 Installing the Access Server

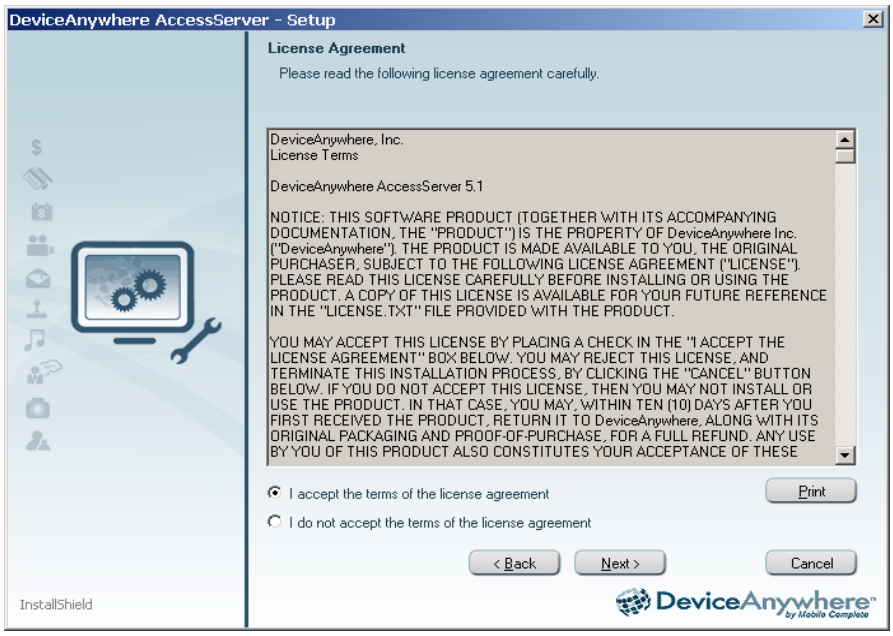
To install the Access Server:

1 Double-click the Access Server installer (`AccessServer.exe` for 32-bit systems, `AccessServer64.exe` for 64-bit systems) to execute it.

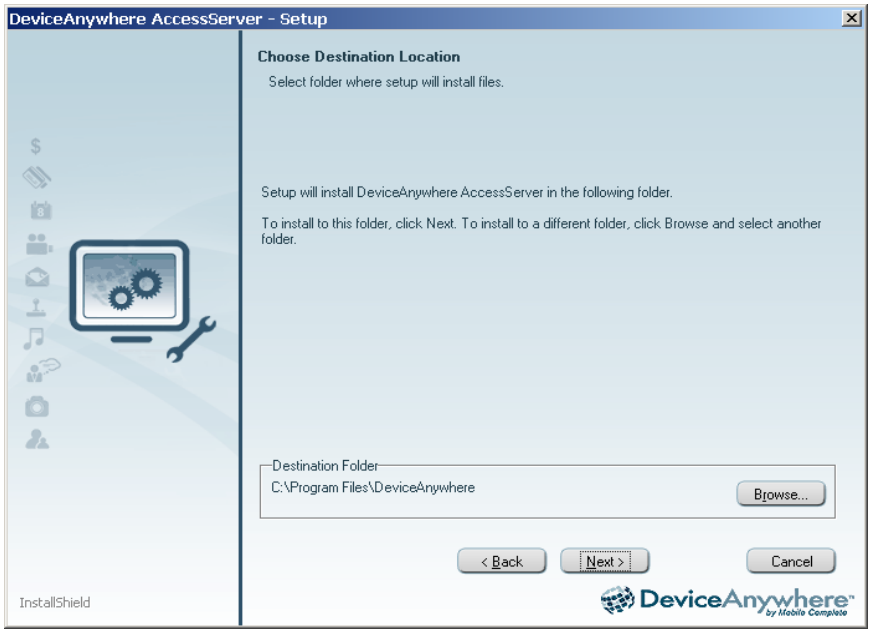
2 Click **Next** on the Setup screen that appears.


DeviceAnywhere AccessServer - Setup
Welcome to the InstallShield Wizard for DeviceAnywhere AccessServer
The InstallShield® Wizard will install DeviceAnywhere AccessServer on your computer. To continue, click Next.
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

3 Accept the license terms and click **Next**.

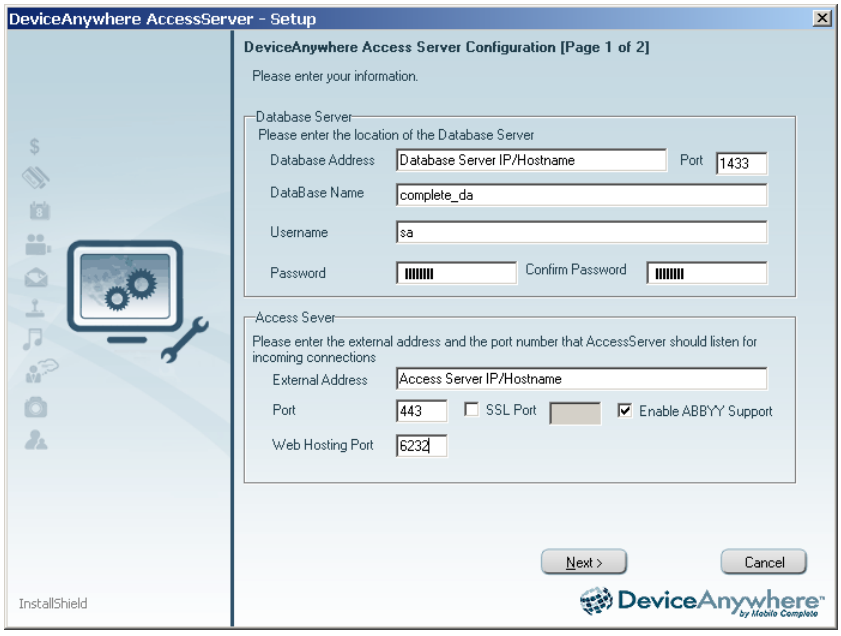

DeviceAnywhere AccessServer - Setup
License Agreement
Please read the following license agreement carefully.
DeviceAnywhere, Inc.
License Terms
DeviceAnywhere AccessServer 5.1
NOTICE: THIS SOFTWARE PRODUCT (TOGETHER WITH ITS ACCOMPANYING DOCUMENTATION, THE "PRODUCT") IS THE PROPERTY OF DeviceAnywhere Inc. ("DeviceAnywhere"). THE PRODUCT IS MADE AVAILABLE TO YOU, THE ORIGINAL PURCHASER, SUBJECT TO THE FOLLOWING LICENSE AGREEMENT ("LICENSE"). PLEASE READ THIS LICENSE CAREFULLY BEFORE INSTALLING OR USING THE PRODUCT. A COPY OF THIS LICENSE IS AVAILABLE FOR YOUR FUTURE REFERENCE IN THE "LICENSE.TXT" FILE PROVIDED WITH THE PRODUCT.
YOU MAY ACCEPT THIS LICENSE BY PLACING A CHECK IN THE "I ACCEPT THE LICENSE AGREEMENT" BOX BELOW. YOU MAY REJECT THIS LICENSE, AND TERMINATE THIS INSTALLATION PROCESS, BY CLICKING THE "CANCEL" BUTTON BELOW. IF YOU DO NOT ACCEPT THIS LICENSE, THEN YOU MAY NOT INSTALL OR USE THE PRODUCT. IN THAT CASE, YOU MAY, WITHIN TEN (10) DAYS AFTER YOU FIRST RECEIVED THE PRODUCT, RETURN IT TO DeviceAnywhere, ALONG WITH ITS ORIGINAL PACKAGING AND PROOF-OF-PURCHASE, FOR A FULL REFUND. ANY USE BY YOU OF THIS PRODUCT ALSO CONSTITUTES YOUR ACCEPTANCE OF THESE
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

4 Choose a destination folder and select **Next**. This will begin the installation of the Access Server. The default file location is `C:\Program Files\DeviceAnywhere\AccessServer`. You may enter a different location if desired.


DeviceAnywhere AccessServer - Setup
Choose Destination Location
Select folder where setup will install files.
Setup will install DeviceAnywhere AccessServer in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DeviceAnywhere
Browse...
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

5 In the configuration screen (page 1 of 2), fill out configuration information as shown in the table below and click **Next**.

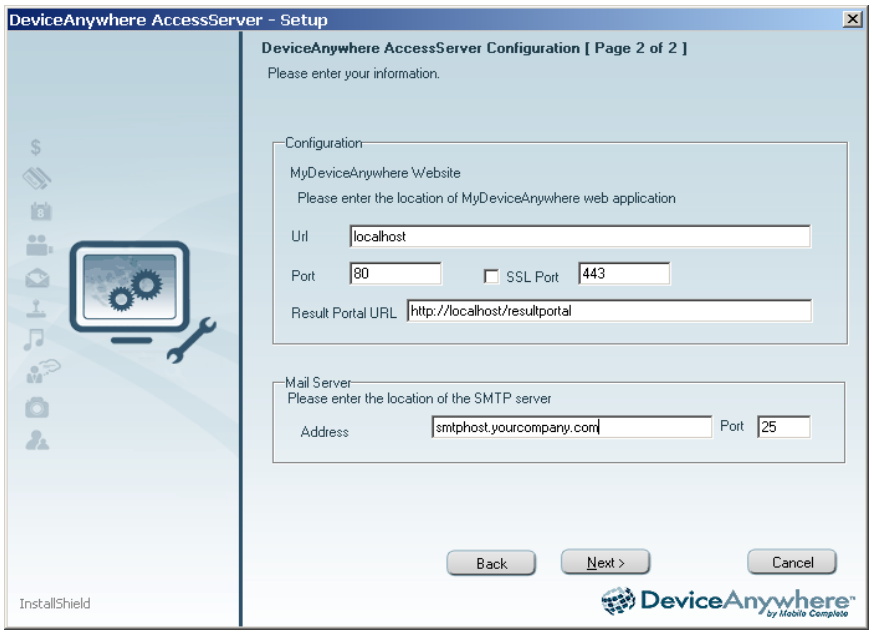
Field	Value
Database Address	Database server IP/hostname
Port	`1433` (Default--Change if different.)
DataBase Name	Name of the database on the database server—this is the database created in section 4.1.2.
Username	Database Server login ID **NOTE** The Access Server and DeviceAnywhere Portal use JDBC to connect to the Database Server. This requires SQL Server Authentication. Provide a user ID and password with the proper SQL Server Authentication permissions. This is most likely the `sa` account unless your database has been set up with a different name.
Password	Database Server password--reconfirm the password.
Access Server **External Address**	Access Server IP/hostname
Port	`443` (Default—Change if different.)
SSL Port	Optional: Check and provide a port number
Enable ABBY Support	Checked by default to enable ABBYY text recognition. Contact your TAM if you want to obtain a license for this feature.
Web Hosting Port	`6232` (Default—Reserved for Web services.)



6 In the second configuration screen, enter configuration information as shown in the table below and click **Next**.

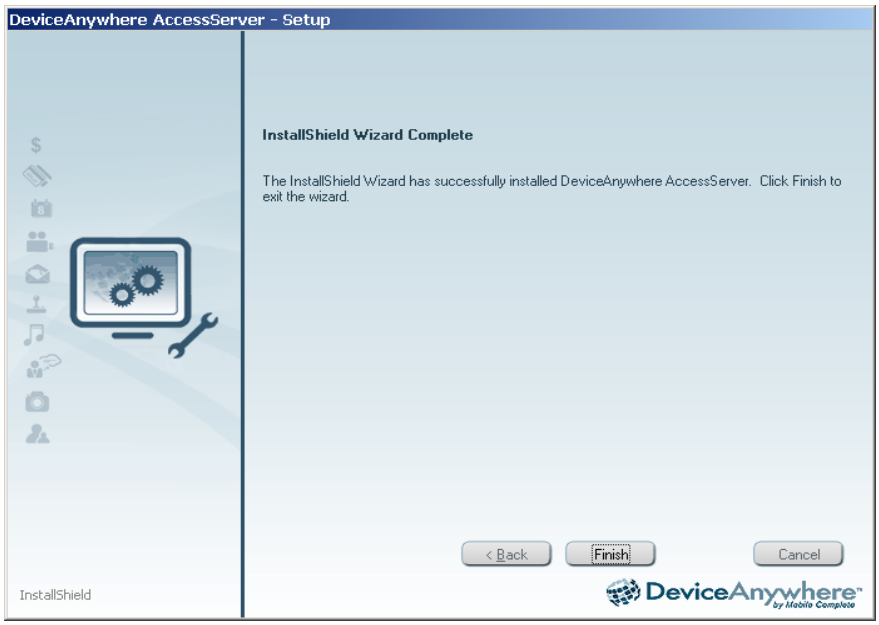
Field	Value
URL	IP/Hostname of server on which DeviceAnywhere Portal is to be installed (omit protocol, e.g., `localhost`)
Port	`80` (Default--Change if different.)

Field	Value
SSL Port	Check to enable and enter a port number. **IMPORTANT** The default is `443`—change (to `0`) if assigned to the Access Server *and* if installing the DeviceAnywhere Portal on the same machine as the Access Server.
Result Portal URL	URL of DeviceAnywhere Results Portal— `http://<Portal_IP/Hostname>/ResultPortal`
Mail Server **Address**	SMTP Server IP/Hostname
Mail Server **Port**	25 (Default)



NOTE You can change the Access Server configuration later if required.

7 Click **Finish** to complete the Access Server installation.



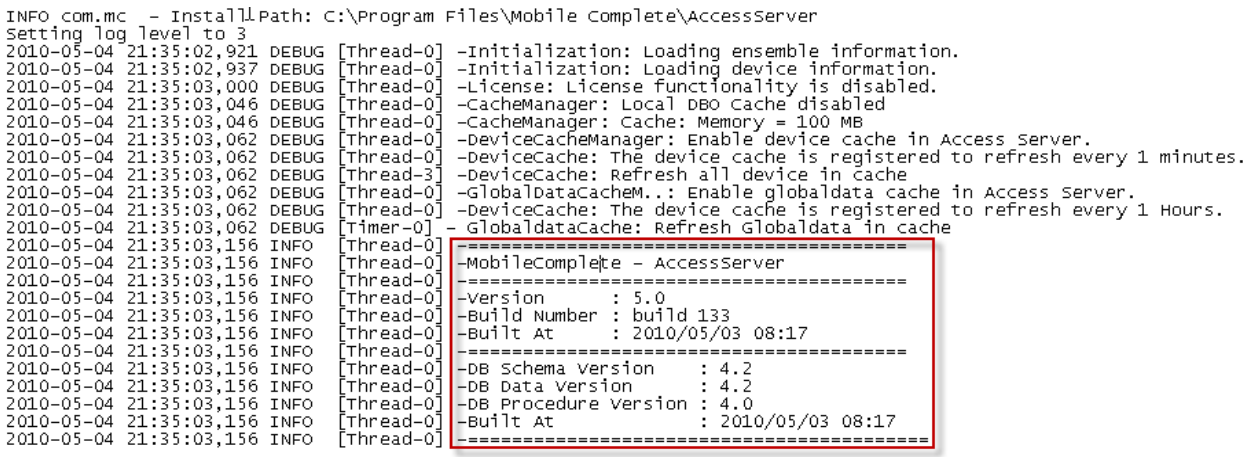
4.2.3 Verifying Access Server Installation

When the Access Server is successfully installed and configured, the Access Server log is found at the following path:

```
C:\Program Files\DeviceAnywhere\Access Server\logs\log.txt
```

You can view the log of the Access Server using a real-time log monitor (such as the Tail utility). To verify installation, check in the log that the Access Server is properly initialized with build date and database information clearly displayed (see the highlighted section in the figure below).

Figure 4-4 Sample Access Server Log


INFO com.mc - InstallPath: C:\Program Files\Mobile Complete\AccessServer
Setting log level to 3
2010-05-04 21:35:02,921 DEBUG [Thread-0] -Initialization: Loading ensemble information.
2010-05-04 21:35:02,937 DEBUG [Thread-0] -Initialization: Loading device information.
2010-05-04 21:35:03,000 DEBUG [Thread-0] -License: License functionality is disabled.
2010-05-04 21:35:03,046 DEBUG [Thread-0] -CacheManager: Local DBO Cache disabled
2010-05-04 21:35:03,046 DEBUG [Thread-0] -CacheManager: Cache: Memory = 100 MB
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCacheManager: Enable device cache in Access Server.
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCache: The device cache is registered to refresh every 1 minutes.
2010-05-04 21:35:03,062 DEBUG [Thread-3] -DeviceCache: Refresh all device in cache
2010-05-04 21:35:03,062 DEBUG [Thread-0] -GlobalDataCacheM..: Enable globaldata cache in Access Server.
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCache: The device cache is registered to refresh every 1 Hours.
2010-05-04 21:35:03,062 DEBUG [Timer-0] - GlobaldataCache: Refresh Globaldata in cache
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -MobileComplete - AccessServer
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -Version : 5.0
2010-05-04 21:35:03,156 INFO [Thread-0] -Build Number : build 133
2010-05-04 21:35:03,156 INFO [Thread-0] -Built At : 2010/05/03 08:17
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Schema Version : 4.2
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Data Version : 4.2
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Procedure Version : 4.0
2010-05-04 21:35:03,156 INFO [Thread-0] -Built At : 2010/05/03 08:17
2010-05-04 21:35:03,156 INFO [Thread-0] ---

4.3 IIS Web Server

Internet Information Services (IIS), formerly called Internet Information Server, is a Web server application and set of feature extension modules created by Microsoft for use with Microsoft Windows. Internet Information Services (IIS) 6.0 makes it easy to share documents and information across a company intranet or the Internet. IIS 6.0 is the fastest Web server for Windows 2003 Server.

4.3.1 Installing and Configuring IIS

Use the procedures below to install and configure IIS on:

- Windows versions prior to Vista
- Windows Vista and later versions

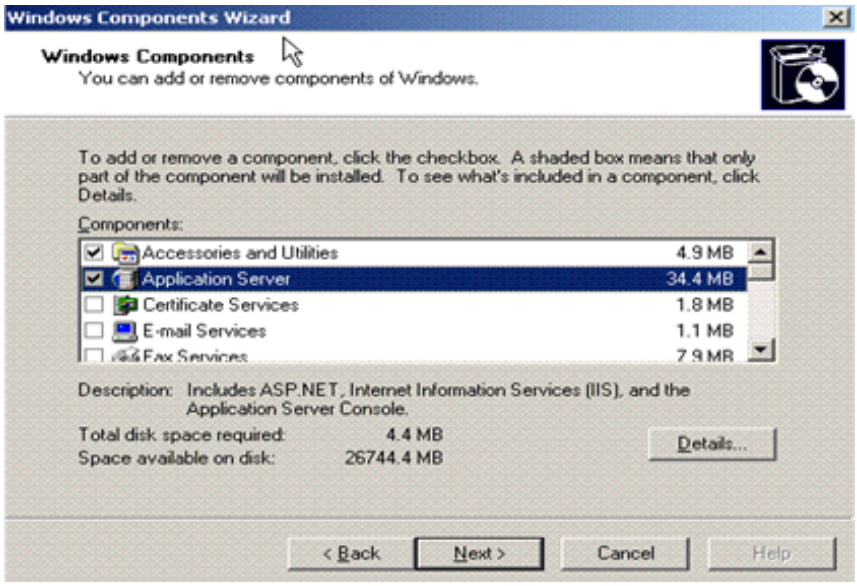
Installing IIS on Windows Versions Prior to Vista

1 Insert a Windows installation CD into your server's CD-ROM drive.

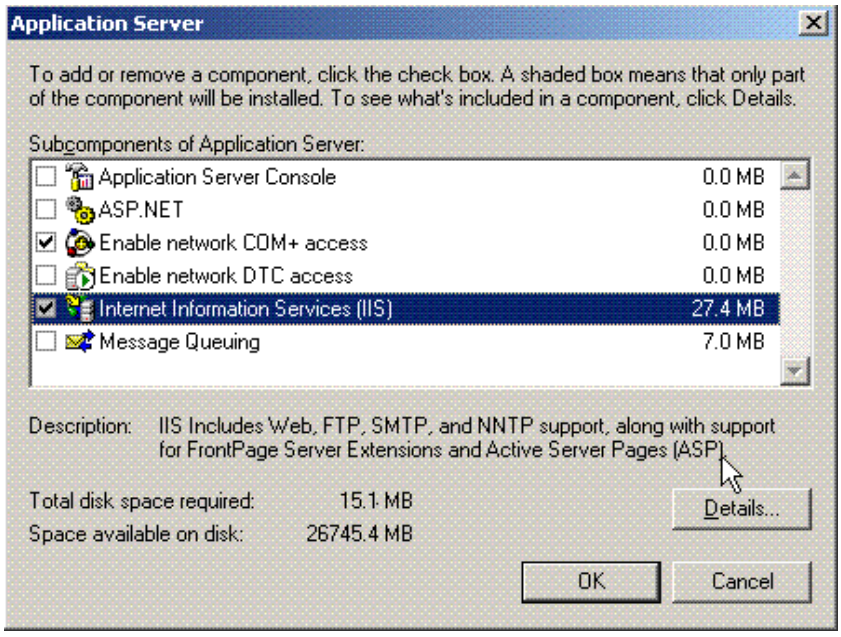
2 On the machine where the DeviceAnywhere Portal is to be deployed, navigate to the Control Panel: **Start** > **Settings** > **Control Panel**.

3 Select **Add/Remove Windows Components**.

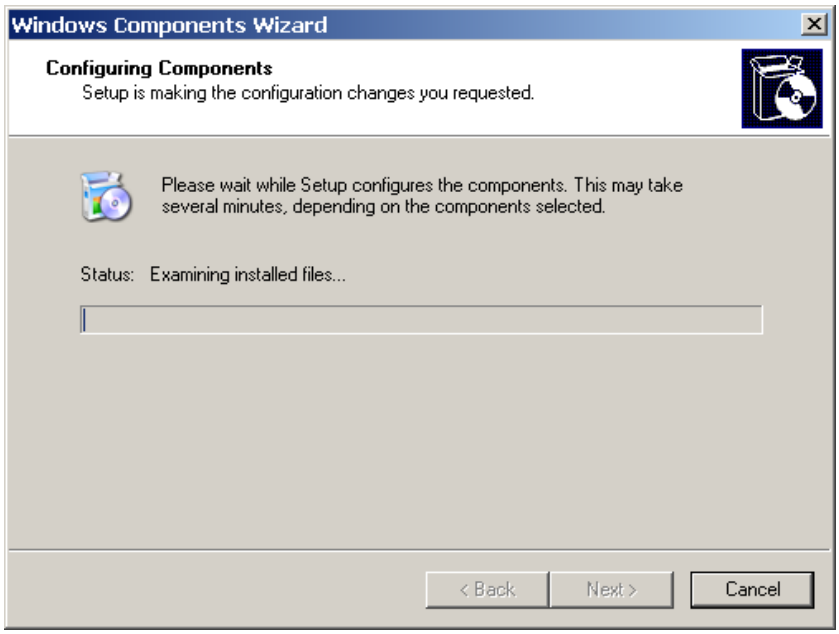
4 Double-click **Application Server**.


Windows Components Wizard
Windows Components
You can add or remove components of Windows.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Accessories and Utilities 4.9 MB
Application Server 34.4 MB
Certificate Services 1.8 MB
E-mail Services 1.1 MB
Description: Includes ASP.NET, Internet Information Services (IIS), and the Application Server Console.
Total disk space required: 4.4 MB
Space available on disk: 26744.4 MB
Details...
< Back
Next >
Cancel
Help

5 Select **Internet Information Server (IIS)** and click **OK**.


Application Server
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Application Server:
Application Server Console 0.0 MB
ASP.NET 0.0 MB
Enable network COM+ access 0.0 MB
Enable network DTC access 0.0 MB
Internet Information Services (IIS) 27.4 MB
Message Queuing 7.0 MB
Description: IIS Includes Web, FTP, SMTP, and NNTP support, along with support for FrontPage Server Extensions and Active Server Pages (ASP).
Total disk space required: 15.1 MB
Space available on disk: 26745.4 MB
Details...
OK
Cancel

The Windows Component Wizard indicates that it is configuring server components.


Windows Components Wizard
Configuring Components
Setup is making the configuration changes you requested.
Please wait while Setup configures the components. This may take several minutes, depending on the components selected.
Status: Examining installed files...
< Back
Next >
Cancel

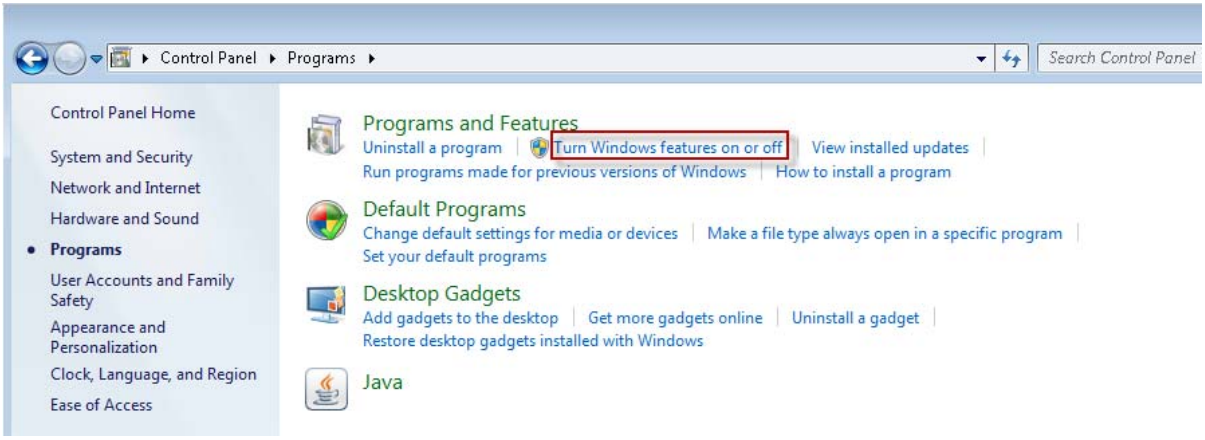
6 Click **Finish** to complete installation and exit the wizard.

Installing IIS on Windows Vista and Later

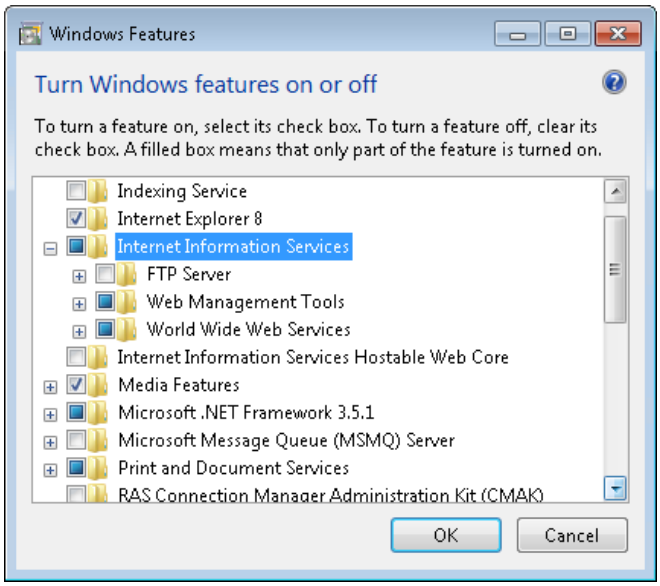
1 On the machine where the DeviceAnywhere Portal is to be deployed, navigate to the Control Panel: **Start** > **Control Panel**.

2 Select **Programs**.

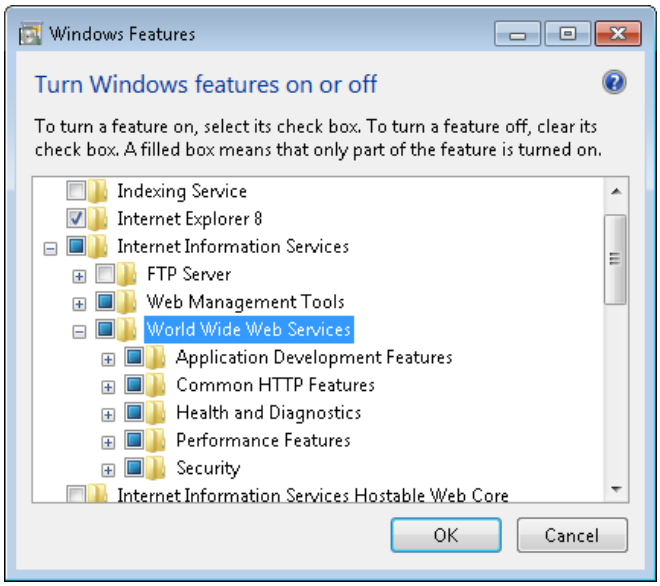
3 Select **Turn Windows features on or off**.


Control Panel ▸ Programs ▸
Search Control Panel
Control Panel Home
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts and Family Safety
Appearance and Personalization
Clock, Language, and Region
Ease of Access
Programs and Features
Uninstall a program
Turn Windows features on or off
View installed updates
Run programs made for previous versions of Windows
How to install a program
Default Programs
Change default settings for media or devices
Make a file type always open in a specific program
Set your default programs
Desktop Gadgets
Add gadgets to the desktop
Get more gadgets online
Uninstall a gadget
Restore desktop gadgets installed with Windows
Java

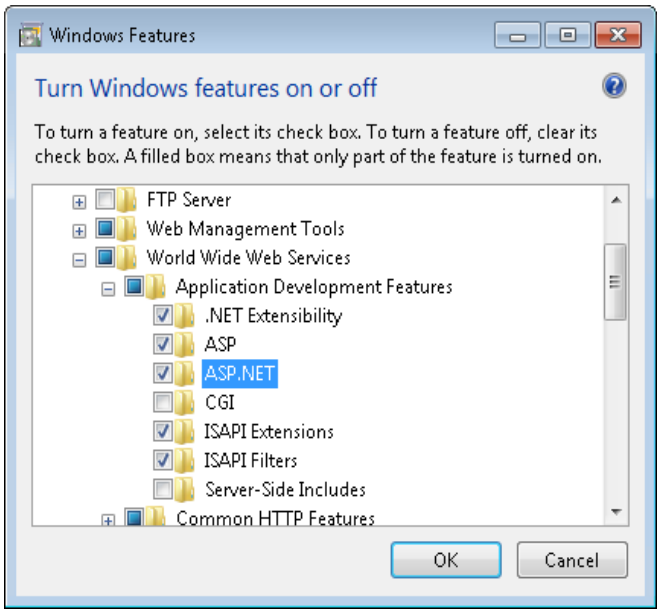
4 Select and expand **Internet Information Services** from the Windows Features window.


Windows Features
Turn Windows features on or off
To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.
Indexing Service
Internet Explorer 8
Internet Information Services
FTP Server
Web Management Tools
World Wide Web Services
Internet Information Services Hostable Web Core
Media Features
Microsoft .NET Framework 3.5.1
Microsoft Message Queue (MSMQ) Server
Print and Document Services
RAS Connection Manager Administration Kit (CMAK)
OK
Cancel

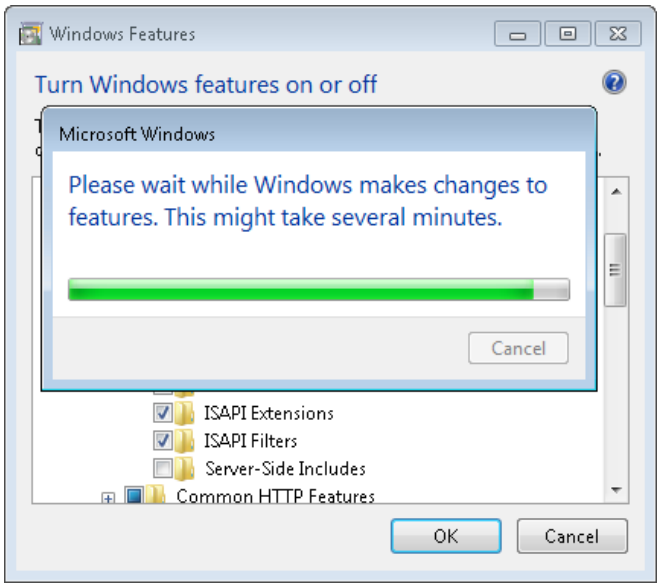
5 Select and expand **World Wide Web Services** from the Internet Information Services components listed.


Windows Features
Turn Windows features on or off
To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.
Indexing Service
Internet Explorer 8
Internet Information Services
FTP Server
Web Management Tools
World Wide Web Services
Application Development Features
Common HTTP Features
Health and Diagnostics
Performance Features
Security
Internet Information Services Hostable Web Core
OK
Cancel

6 Select the **ASP** and **ASP.NET** components (other components are automatically selected).



7 When the components have been enabled, click **OK** to complete your IIS installation.



4.3.2 Verifying IIS Server Installation

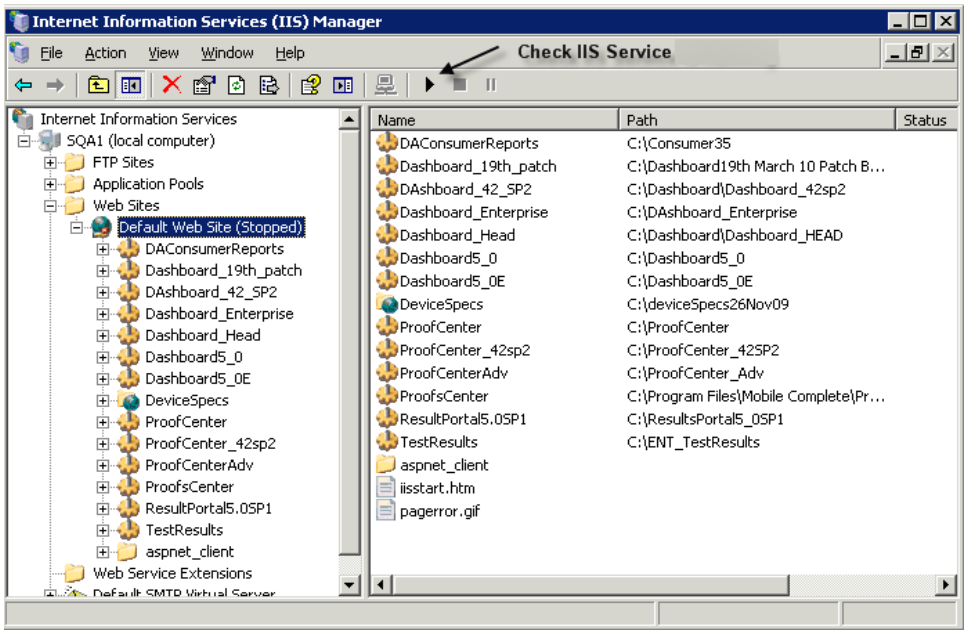
To check that IIS is running in Internet Information Services console:

1 Select **Start** > **Run**.

2 Enter the command **`inetmgr`**; this will open the Internet Information Services (IIS) Manager.

3 Navigate to **Web Sites** > **Default Web Site**.

4 Click the Run button if IIS is not running.



4.4 DeviceAnywhere Portal

The DeviceAnywhere Web Portal provides an interface for customer, user, and device administration. You can also view test results here. The DeviceAnywhere Portal combines the installers and functionalities of the MyDeviceAnywhere (Mobile Harmony) Server and the Results Portal.

4.4.1 Connectivity Requirements

The DeviceAnywhere Portal has following connectivity requirements:

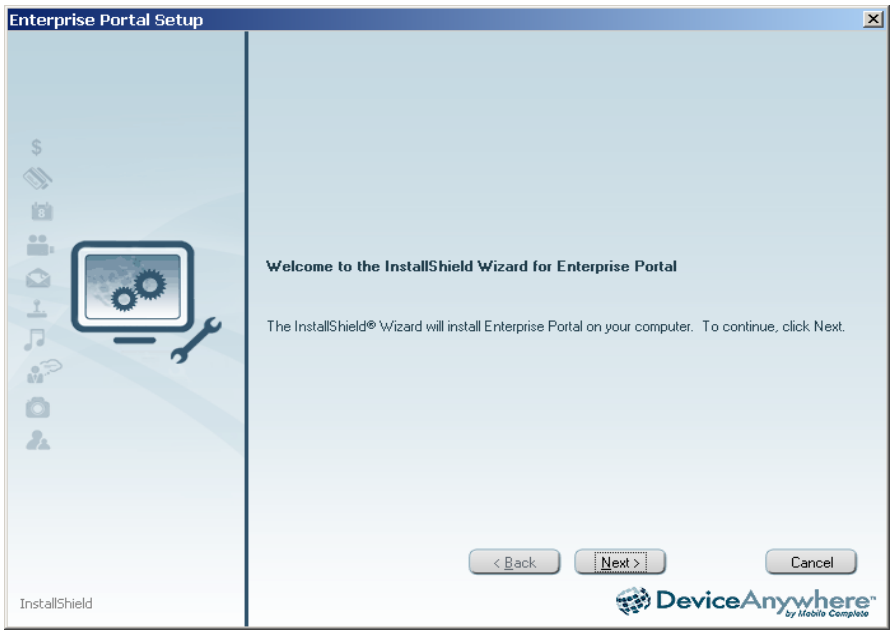
- The DeviceAnywhere Portal must be able to connect to the Database Server.
- The DeviceAnywhere Portal must be able to connect to the Access Server.
- The DeviceAnywhere Portal must be able to connect to the SMTP Server.
- In order to use the DeviceAnywhere Portal, you must be able to access the server hosting the Web application using a browser, e.g., by entering the URL of the DeviceAnywhere Portal, e.g., `http://localhost`.

4.4.2 Installing the DeviceAnywhere Portal

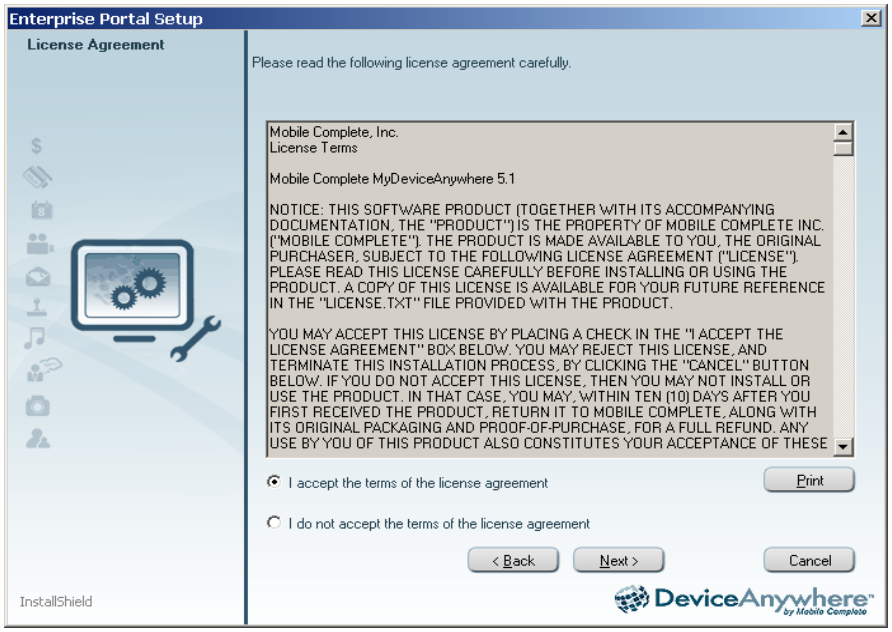
To install the DeviceAnywhere Portal:

1 Double-click the `EnterprisePortal.exe` installer to execute it.

2 In the Setup screen that appears, click **Next**.


Enterprise Portal Setup
Welcome to the InstallShield Wizard for Enterprise Portal
The InstallShield® Wizard will install Enterprise Portal on your computer. To continue, click Next.
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

3 Accept license terms and select **Next**.


Enterprise Portal Setup
License Agreement
Please read the following license agreement carefully.
Mobile Complete, Inc.
License Terms
Mobile Complete MyDeviceAnywhere 5.1
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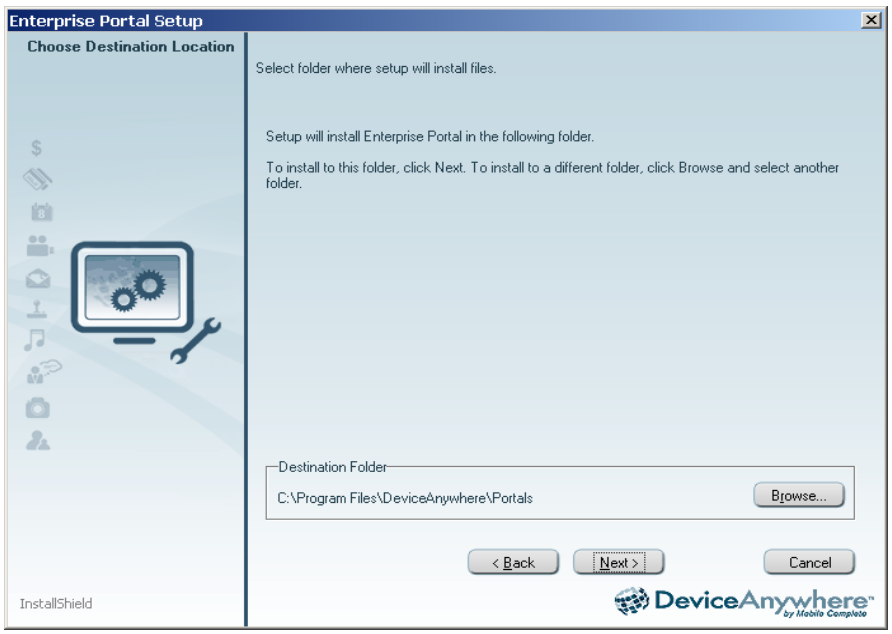
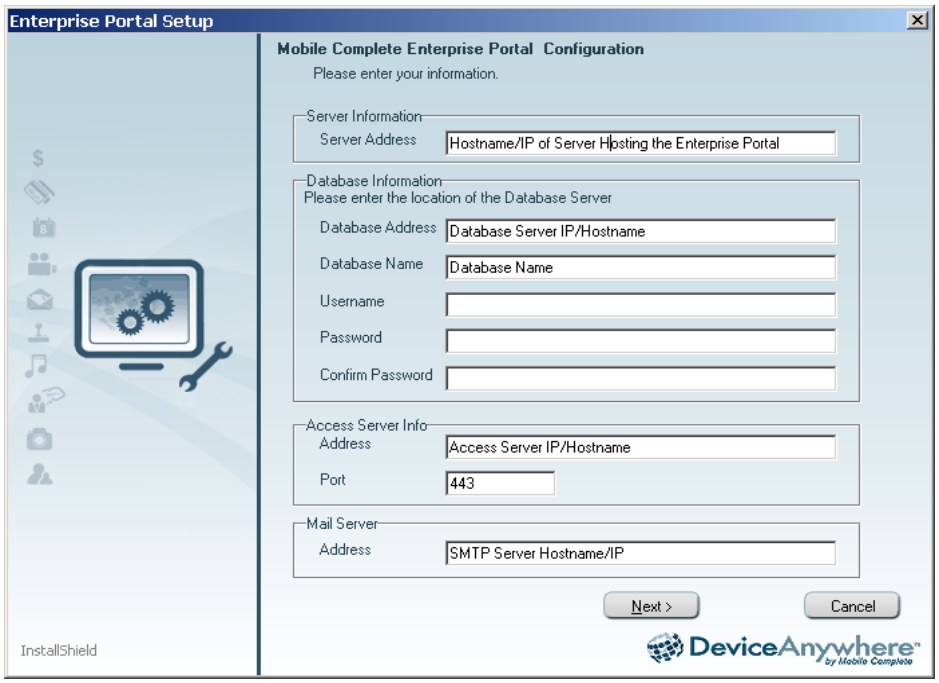
Print
I do not accept the terms of the license agreement
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

4 In the Destination Location screen, choose an installation location for the DeviceAnywhere Portal and click **Next**. The default destination folder is `C:\Program Files\DeviceAnywhere\Portals`.

NOTE You may install the Portal at another location.


Enterprise Portal Setup
Choose Destination Location
Select folder where setup will install files.
Setup will install Enterprise Portal in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DeviceAnywhere\Portals
Browse...
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

5 In the configuration screen, enter configuration information as shown in the table below. Select **Next**.



Field	Value
Server Address	Hostname/IP address of the server hosting the DeviceAnywhere (Enterprise) Portal
Database Address	Database Server IP/hostname
Database Name	Name of the database created in section 4.1.2 on the Database Server
Username	Database Server login ID with SQL Server Authentication permissions **NOTE** The Access Server and DeviceAnywhere Portal use JDBC to connect to the Database Server. This requires SQL Server Authentication. Provide a user ID and password with the proper SQL Server Authentication permissions. This is most likely the `sa` account unless your database has been set up with a different name.
Password	Database Server password—reconfirm the password.
Access Server **Address**	Access Server IP/hostname
Access Server **Port**	`443` (Default—Change if different.)
Mail Server **Address**	SMTP server IP/hostname

A screen indicates the progress of the configuration while several Windows components are installed:

- .NET Framework 3.5
- Microsoft ASP .NET 2.0 AJAX Extensions 1.0
- Microsoft WSE 3.0

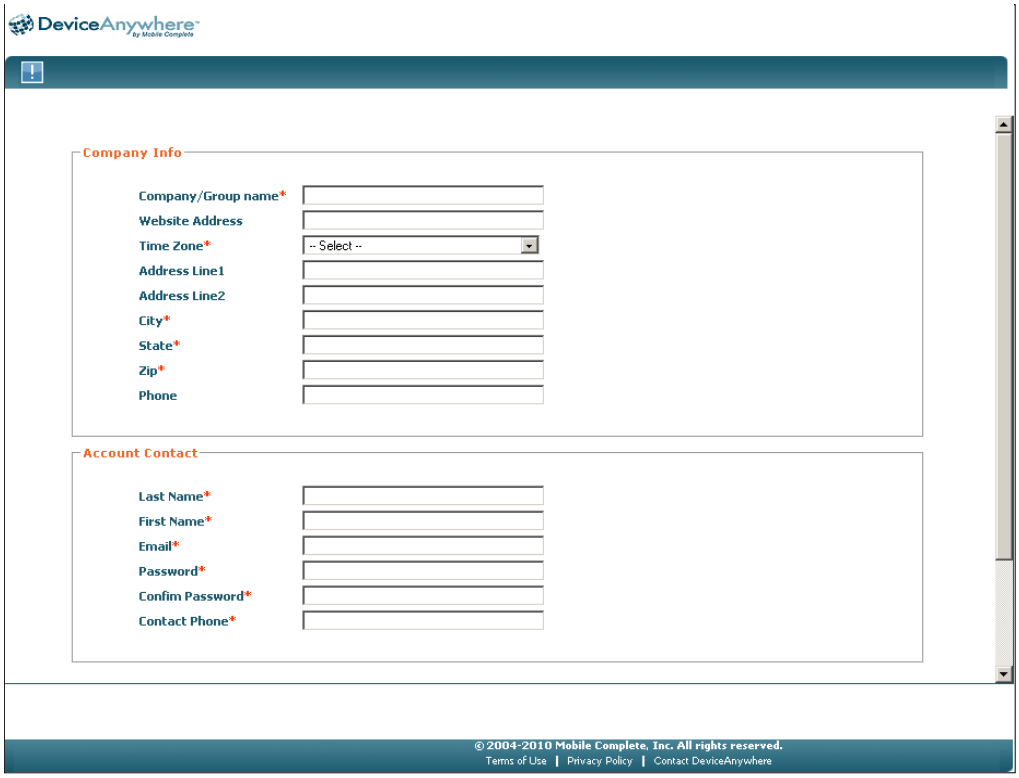
This may take several moments.

6 Click **Finish** to exit the Portal installation wizard.

4.4.3 Creating a Customer

When you first launch a browser and access the DeviceAnywhere Portal (pointing to the blank DeviceAnywhere database), you are directed to a customer creation page. This section describes how to create a customer representing your organization and associate a primary user (account administrator) with the customer. Creating a customer is a prerequisite for receiving a license file from your DeviceAnywhere TAM.

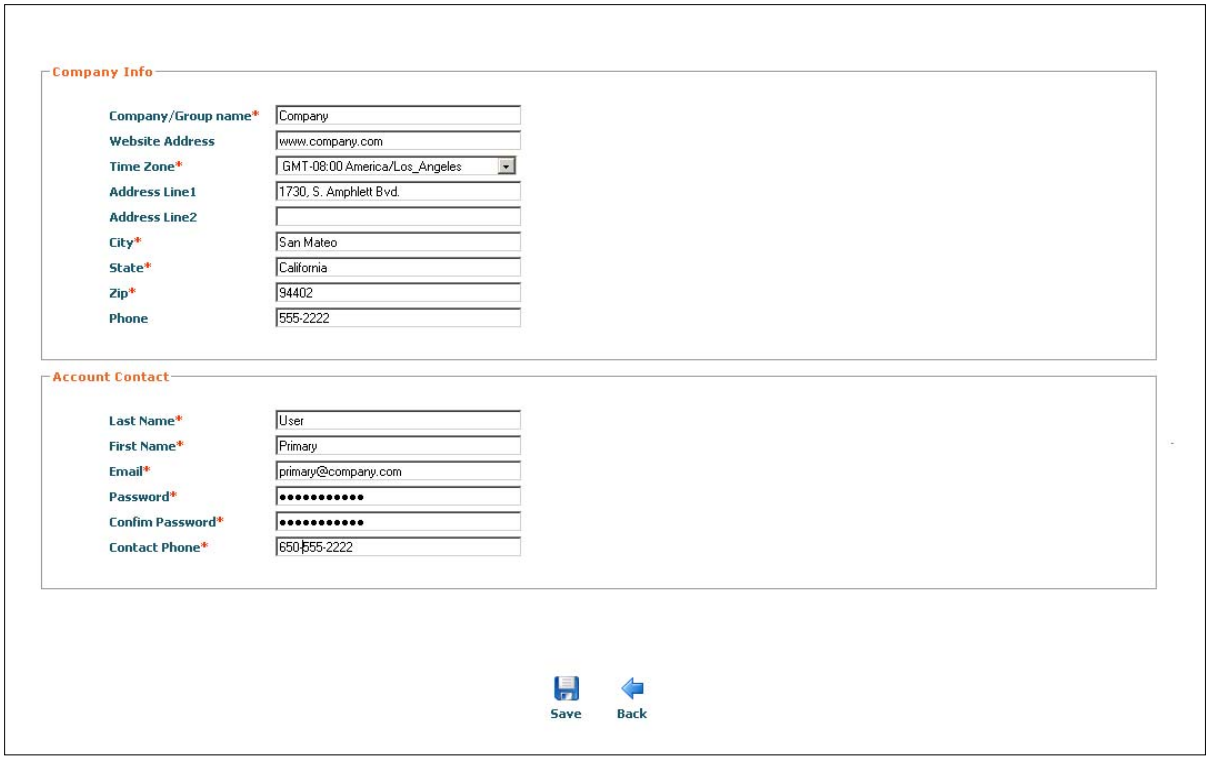
1 Point your browser to the DeviceAnywhere Portal URL, e.g., http://localhost. You are directed to the customer creation page.



2 Fill out the fields on this page as shown in the table below (fields marked with an asterisk are required):

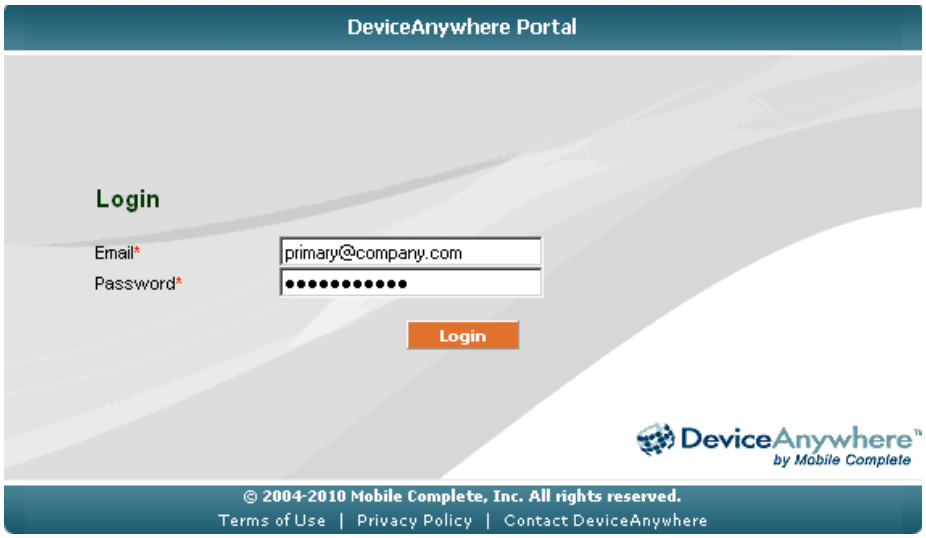
Field	Value
Company/Group name*	Name of the customer/organization
Website Address	URL of your organization
Time Zone*	Select your time zone from the drop-down list provided.
Address Line1	Your organization's street address
Address Line2	Address continuation line
City*	City where your organization is located
State*	State
Zip	Zip code
Phone	Company contact number
Last Name*	Last name of the primary contact associated with the customer
First Name*	First name of the primary contact associated with the customer
Email*	Email address of primary contact—this is the user ID to access the Portal.
Password*	Enter a password for the primary contact to access the DeviceAnywhere Portal. **NOTE** The password must be at least 8 characters long and contain at least one upper-case letter and one numeral, e.g., `Abcd1234`.
Confirm Password*	Re-enter the password.
Contact Phone*	Phone number of primary contact

3 Scroll to the bottom of the page and click **Save**.

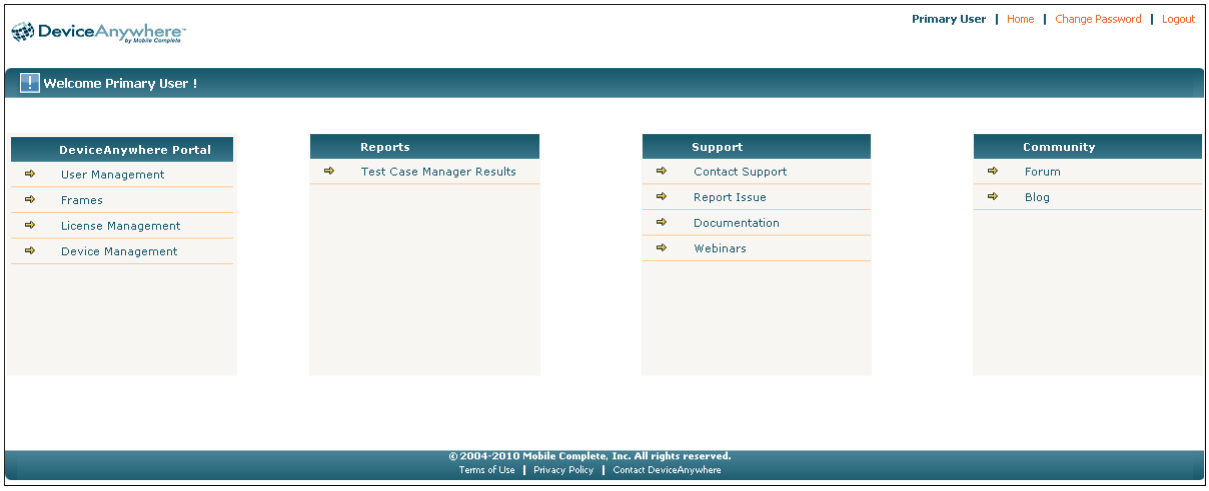


4 Click **Continue**.

5 In the login screen that appears, enter the credentials of the primary contact associated with the customer you just created.



You are directed to the DeviceAnywhere Portal landing page from where you can create other users.



6 Contact your DeviceAnywhere TAM to procure a DeviceAnywhere license file.

4.5 DeviceAnywhere License File

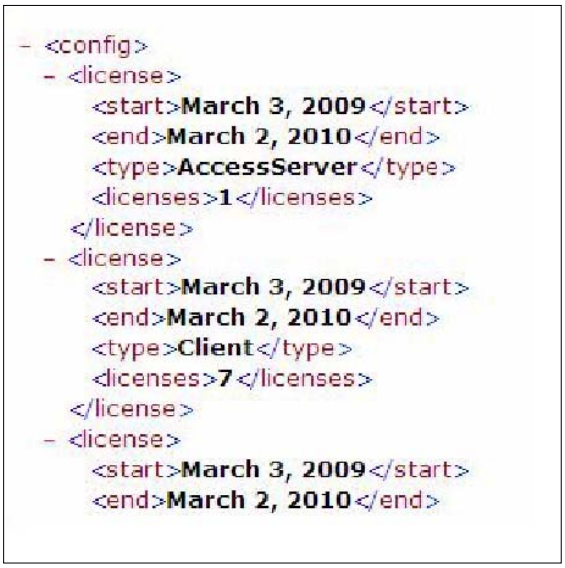
To install a license file:

1 After you have installed the DeviceAnywhere Portal and created a customer, contact your Technical Account Manager to procure a license file (see the figure below) in XML format.

2 Copy this XML file to the Access Server license folder, located by default at the following location: `C:\Program Files\DeviceAnywhere\AccessServer\config\license`.

3 Restart the Access Server.

Figure 4-5 DeviceAnywhere License File



4.6 DeviceAnywhere Ensemble Server

The DeviceAnywhere Ensemble Server hosts one or more devices over USB, Wi-Fi, or Bluetooth. Each Server typically hosts 2 – 6 devices. You will need to repeat this installation procedure for each Ensemble Server in your DeviceAnywhere test environment.

See DeviceAnywhere Ensemble Server Guidelines for installation guidelines and connectivity requirements.

4.6.1 Ensemble Server Installation

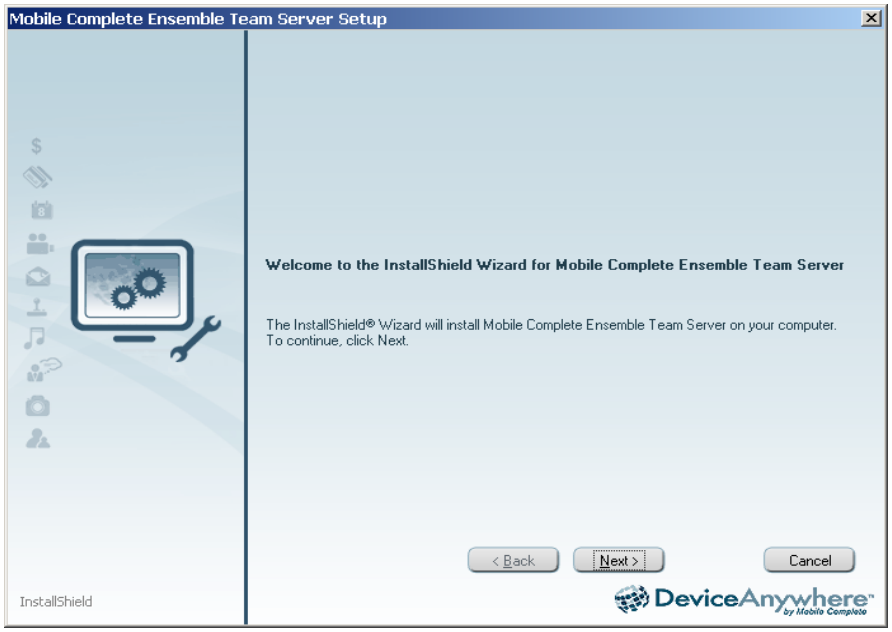
Before installation, you must gather the following information:

- The IP address or hostname of your Access Server
- Access Server port (if different from the default)
- The credentials of a DeviceAnywhere account in your test environment with permission to use the Team or Individual Ensemble Server and connect to the Access Server
- The IP address or hostname you wish to assign to the Ensemble Server
- License key and password for using the ABBYY text recognition engine (contact your TAM for assistance)

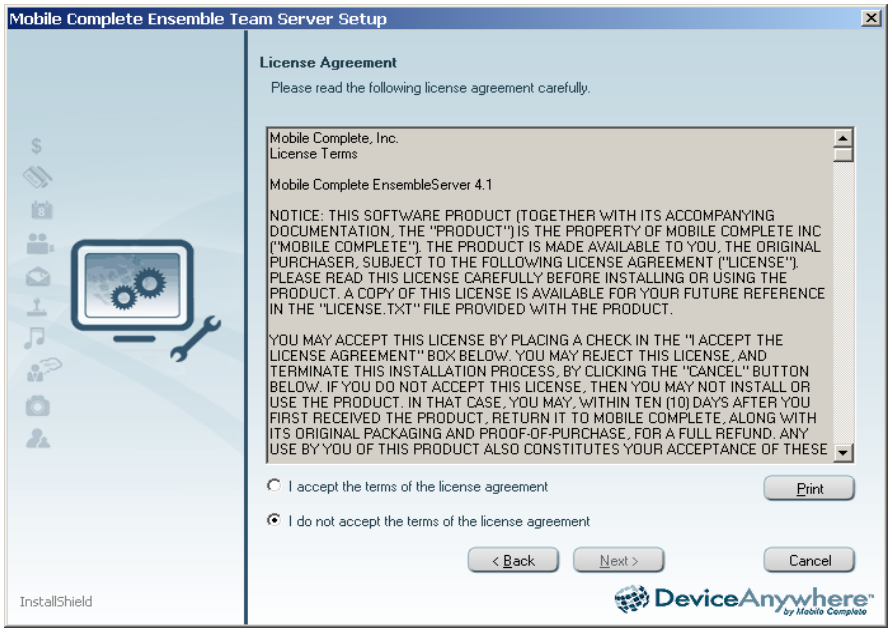
While the following procedure describes the installation of both the Team and Individual versions of the Ensemble Server, the screens below depict the Team Server:

1 Double-click the `EnsembletTeamServer.exe` or `EnsembleIndividualServer.exe` installer to execute it.

2 Click **Next** in the Ensemble Server Setup screen that appears.


Mobile Complete Ensemble Team Server Setup
Welcome to the InstallShield Wizard for Mobile Complete Ensemble Team Server
The InstallShield® Wizard will install Mobile Complete Ensemble Team Server on your computer. To continue, click Next.
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

3 Accept the license terms and click **Next**.


Mobile Complete Ensemble Team Server Setup
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Mobile Complete EnsembleServer 4.1
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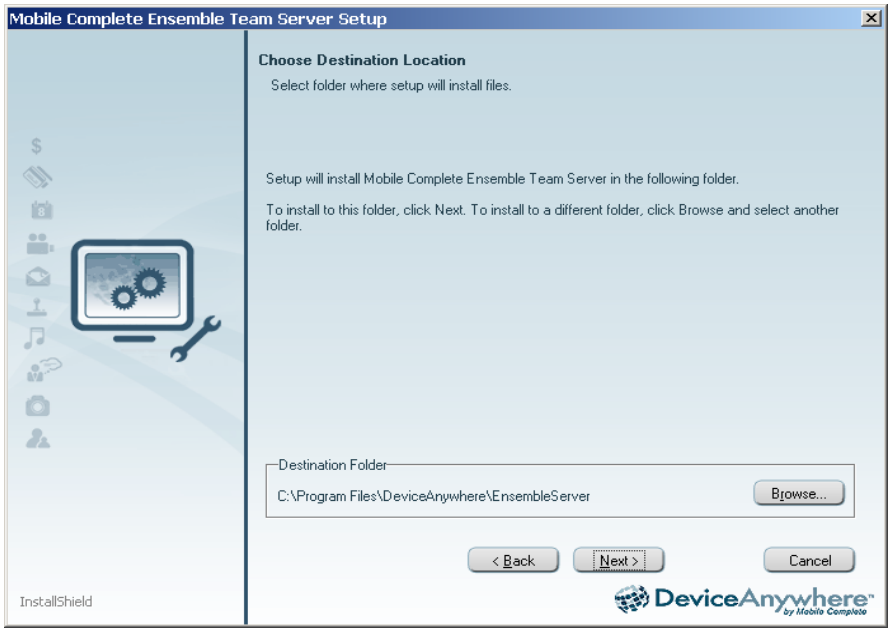
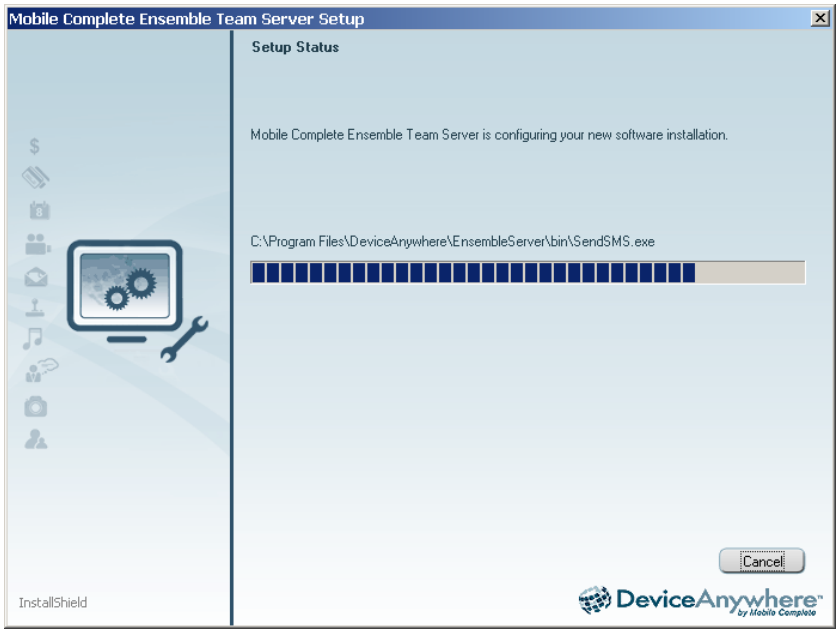
I do not accept the terms of the license agreement
Print
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

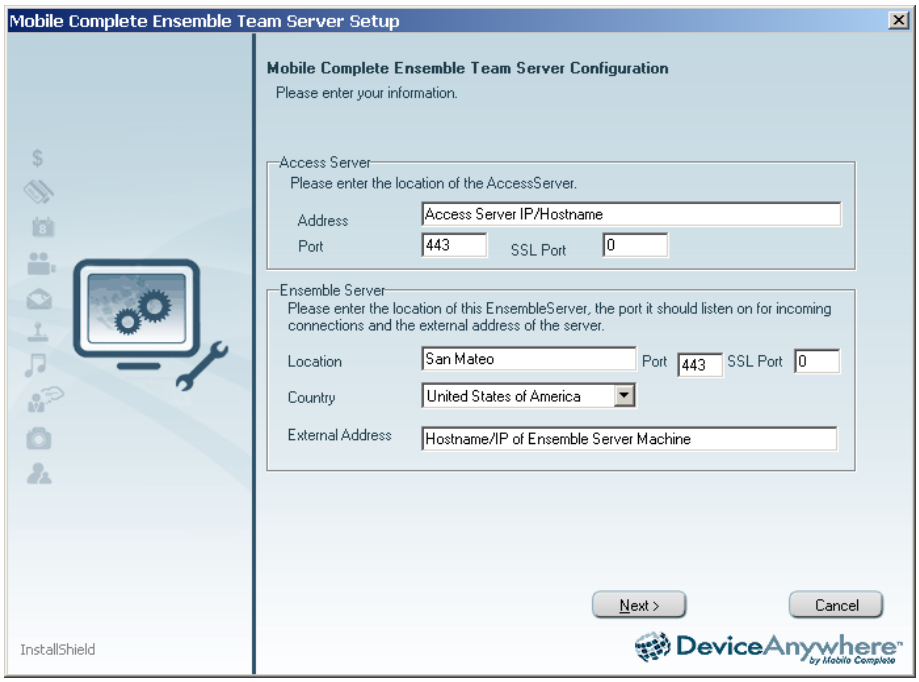
4 Choose a destination folder and select **Next**. This will begin the installation of the Ensemble Server. The default file location is `C:\Program Files\DeviceAnywhere\EnsembleServer`. You may enter a different location if desired.


Mobile Complete Ensemble Team Server Setup
Choose Destination Location
Select folder where setup will install files.
Setup will install Mobile Complete Ensemble Team Server in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DeviceAnywhere\EnsembleServer
Browse...
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

The wizard indicates the progress of the installation.



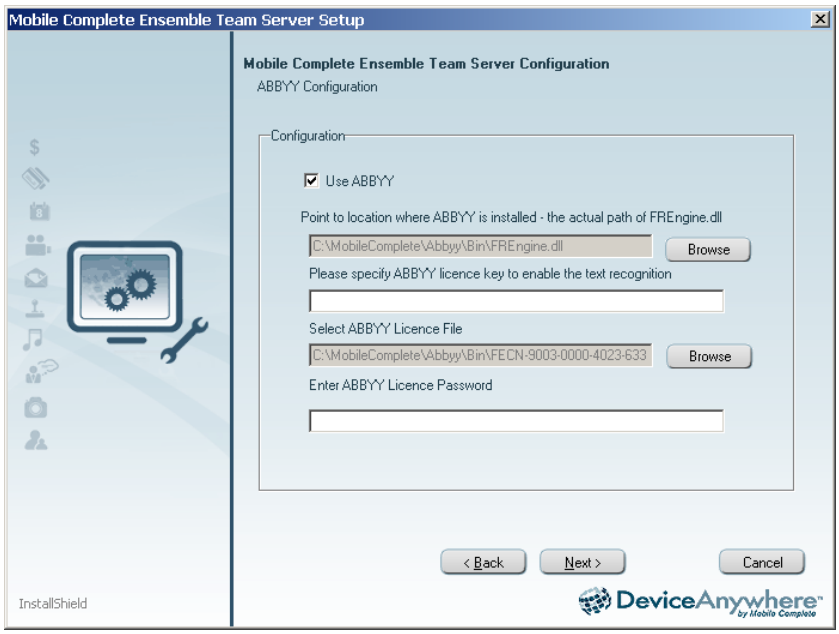
5 In the Ensemble Server configuration screen, enter configuration information as shown in the table below and click **Next**.



Field	Value
Address	Access Server IP/Hostname
Port	The default port of the Access Server is `443`—Change if different.
SSL Port	`0`—Change if different.
Location	Enter the name of the city, e.g., `Paris`, where the Ensemble Server is physically located.
Port	Set the Ensemble Server port to `443`—change if different.

Field	Value
Country	Enter the country, e.g., `France`, where this Ensemble Server is located.
External Address	Ensemble Server machine IP/hostname Use the IP address or hostname assigned to the Ensemble Server machine. The external address is the IP address or machine name that users and other system components will use to communicate with the Ensemble Server.

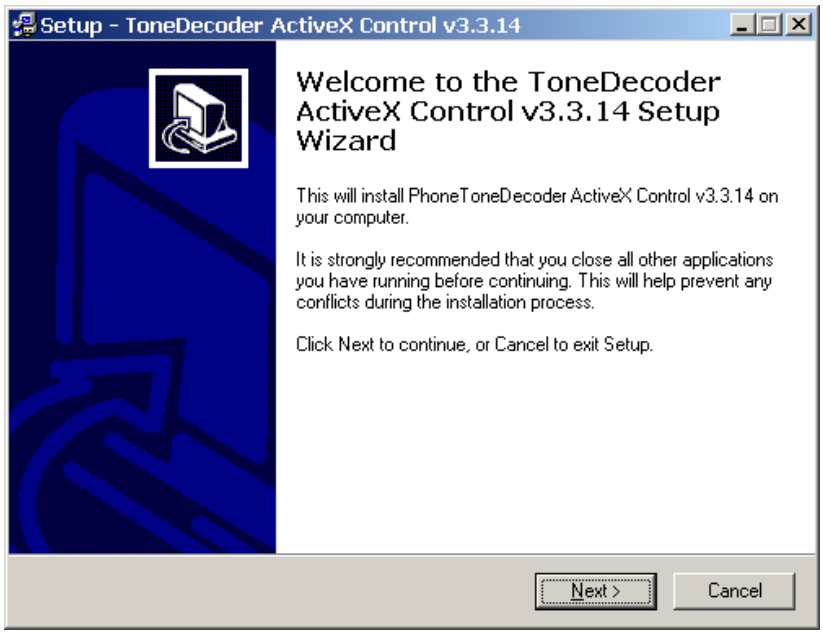
6 In the ABBY Configuration screen, select **Use ABBY** if you desire text recognition capabilities and can provide license information. Your TAM will provide your license information or assist with procuring a license if you do not have one. Select **Next**.



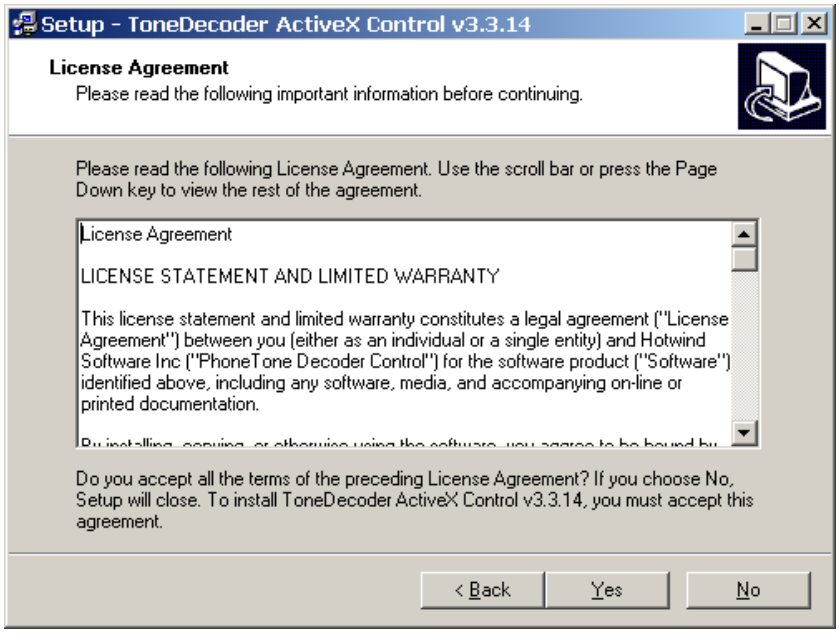
NOTE ABBY is automatically installed with the Ensemble Server and the default program and license file locations are displayed in this screen. You can change these values if you wish to point to another installation of ABBYY.

7 Select **Yes** to install the Tone Decoder ActiveX Control. This enables the sound decoder that supports the Wait Audio command.

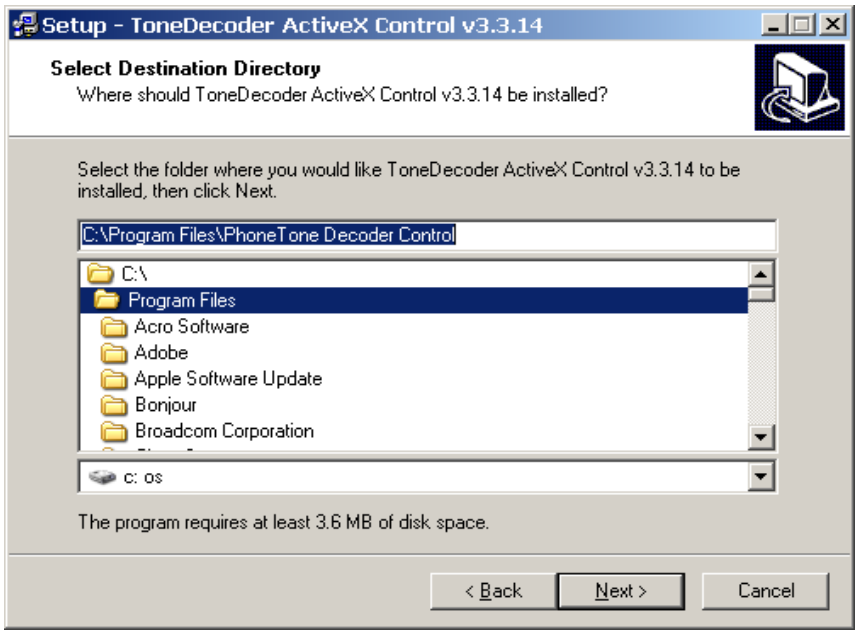
8 In the Tone Decoder ActiveX Control installation wizard, select **Next**.


Setup - ToneDecoder ActiveX Control v3.3.14
Welcome to the ToneDecoder ActiveX Control v3.3.14 Setup Wizard
This will install PhoneToneDecoder ActiveX Control v3.3.14 on your computer.
It is strongly recommended that you close all other applications you have running before continuing. This will help prevent any conflicts during the installation process.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

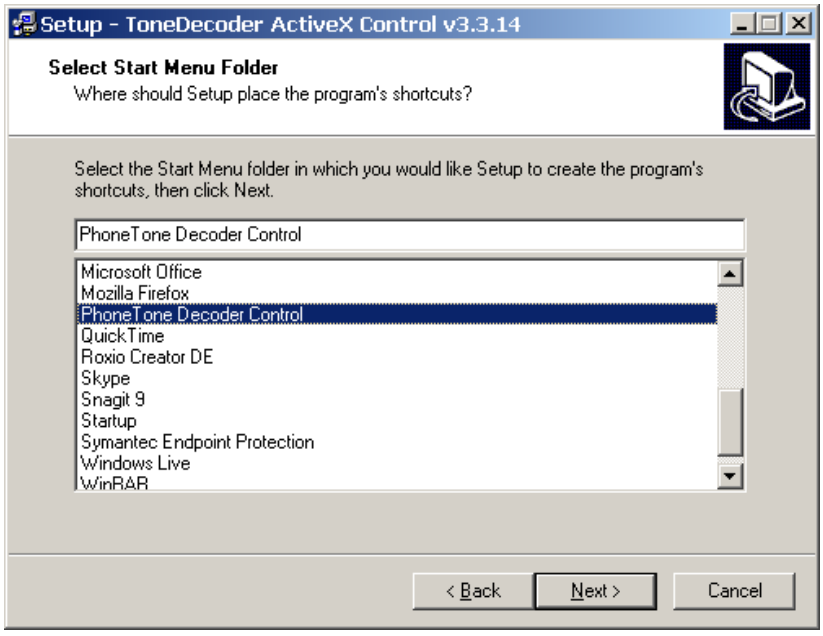
9 Accept the Tone Decoder ActiveX Control licensing terms.


Setup - ToneDecoder ActiveX Control v3.3.14
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. Use the scroll bar or press the Page Down key to view the rest of the agreement.
License Agreement
LICENSE STATEMENT AND LIMITED WARRANTY
This license statement and limited warranty constitutes a legal agreement ("License Agreement") between you (either as an individual or a single entity) and Hotwind Software Inc ("PhoneTone Decoder Control") for the software product ("Software") identified above, including any software, media, and accompanying on-line or printed documentation.
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install ToneDecoder ActiveX Control v3.3.14, you must accept this agreement.
< Back
Yes
No

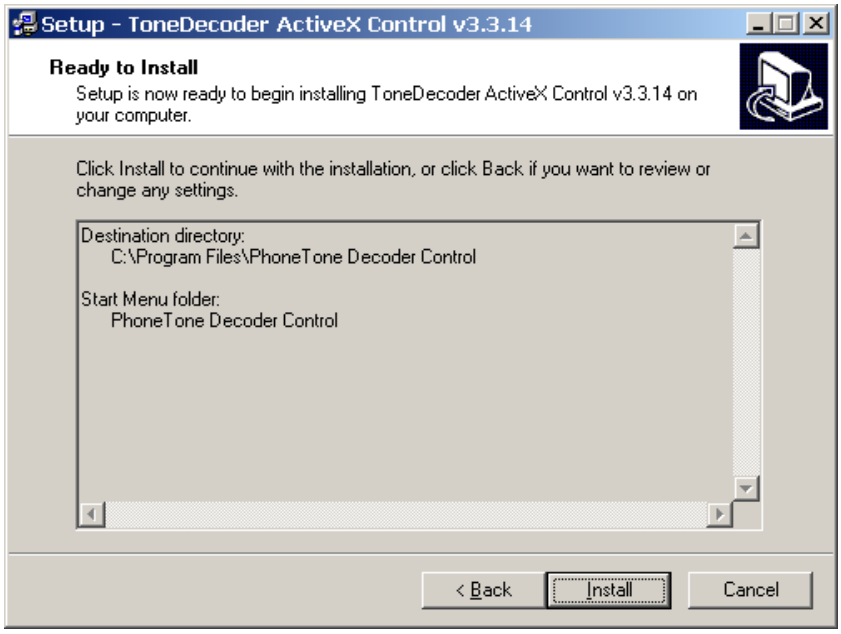
10 In the Select Destination Directory screen, choose an installation location for the Tone Decoder ActiveX Control. The default destination is `C:\Program Files`. You may choose another location. Click **Next**.


Setup - ToneDecoder ActiveX Control v3.3.14
Select Destination Directory
Where should ToneDecoder ActiveX Control v3.3.14 be installed?
Select the folder where you would like ToneDecoder ActiveX Control v3.3.14 to be installed, then click Next.
C:\Program Files\PhoneTone Decoder Control
C:\
Program Files
Acro Software
Adobe
Apple Software Update
Bonjour
Broadcom Corporation
c: os
The program requires at least 3.6 MB of disk space.
< Back
Next >
Cancel

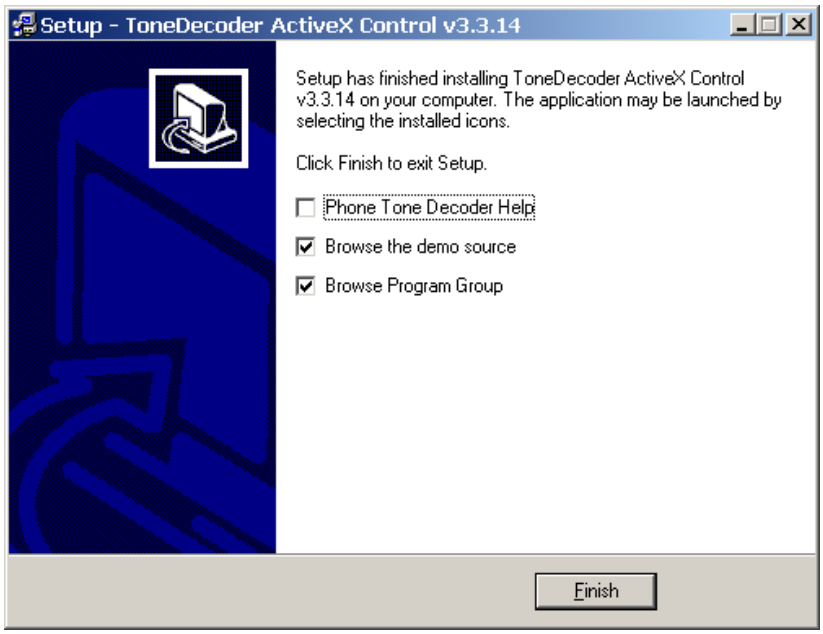
11 Next, you must choose a location for the Tone Decoder's shortcuts in the **Start** menu. Click **Next** to install the shortcuts.



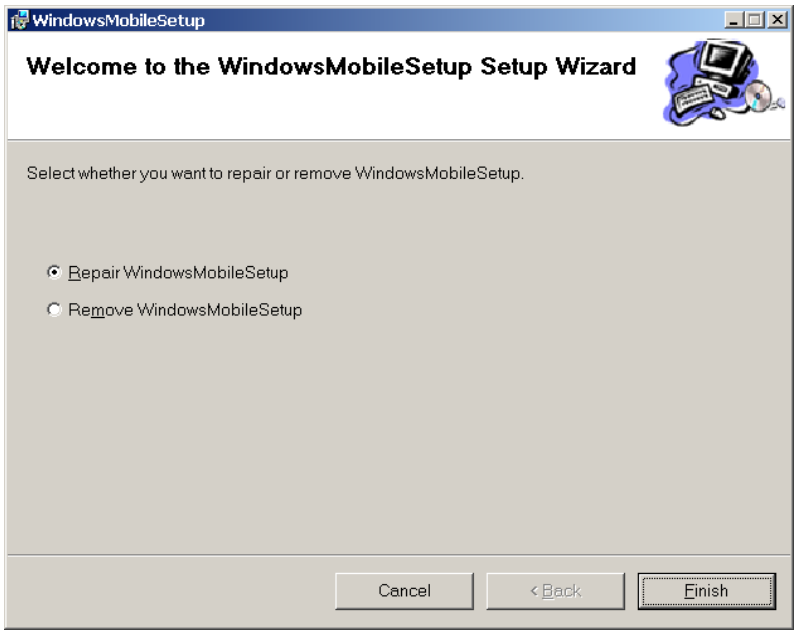
12 Click **Install** to begin installation of the tone decoder.


Setup - ToneDecoder ActiveX Control v3.3.14
Ready to Install
Setup is now ready to begin installing ToneDecoder ActiveX Control v3.3.14 on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination directory:
C:\Program Files\PhoneTone Decoder Control
Start Menu folder:
PhoneTone Decoder Control
< Back
Install
Cancel

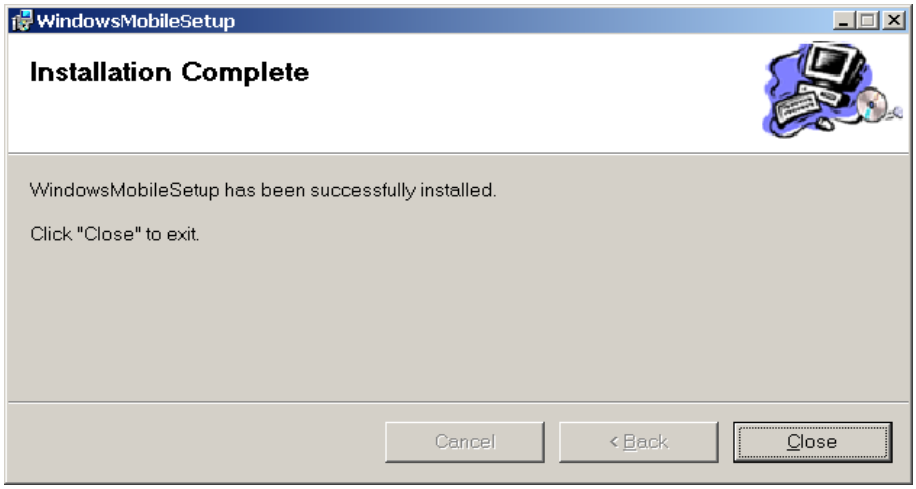
13 Select **Finish** to complete installation of the Tone Decoder ActiveX Control.


Setup - ToneDecoder ActiveX Control v3.3.14
Setup has finished installing ToneDecoder ActiveX Control v3.3.14 on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Phone Tone Decoder Help
Browse the demo source
Browse Program Group
Finish

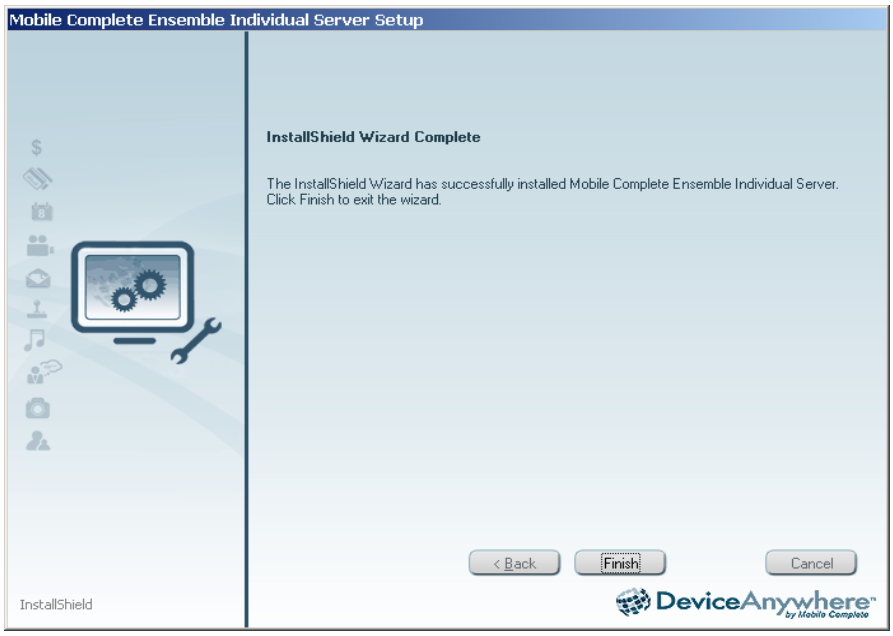
14 Next, you must install Windows Mobile components to enable interacting with Windows Mobile devices. Select the **Repair** radio button and click **Finish**.



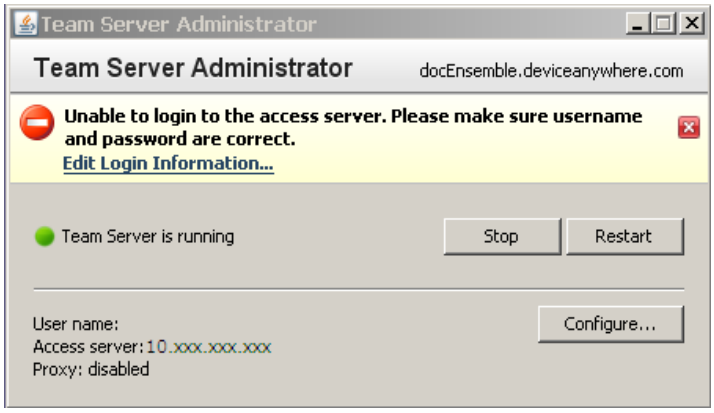
15 Click **Close** to exit the Windows Mobile Setup installation wizard.



16 Click **Finish** to complete installing the Ensemble Server.


Mobile Complete Ensemble Individual Server Setup
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Mobile Complete Ensemble Individual Server. Click Finish to exit the wizard.
< Back
Finish
Cancel
InstallShield
DeviceAnywhere

17 In the Team Server Administrator window that appears a few moments later, you must enter login credentials to connect with the Access Server. Click **Configure**.

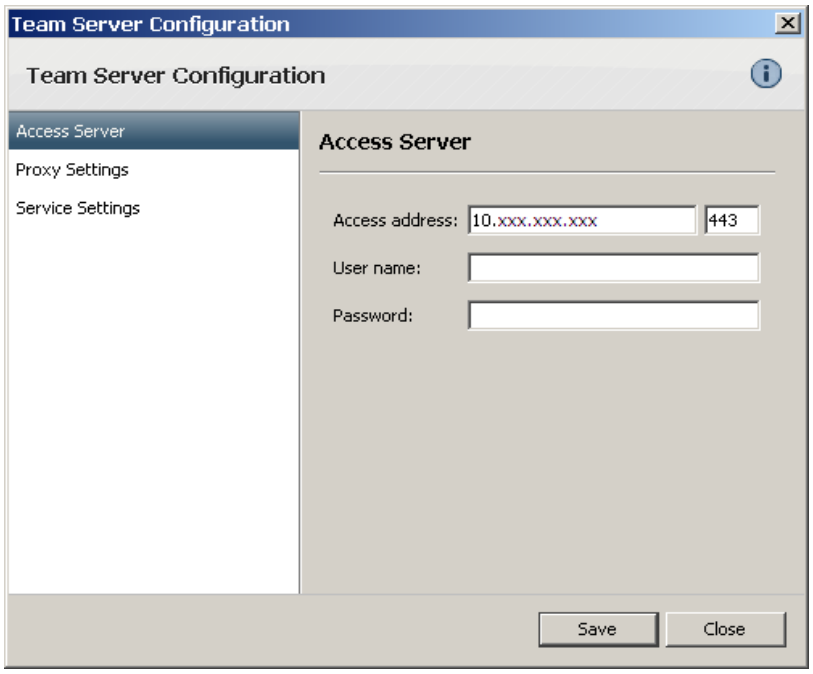


NOTE The system tray displays the icon for the Administrator , while the Ensemble Admin Tool shortcut

is placed on the desktop. Click this icon at any time to start up and configure the Ensemble Server.

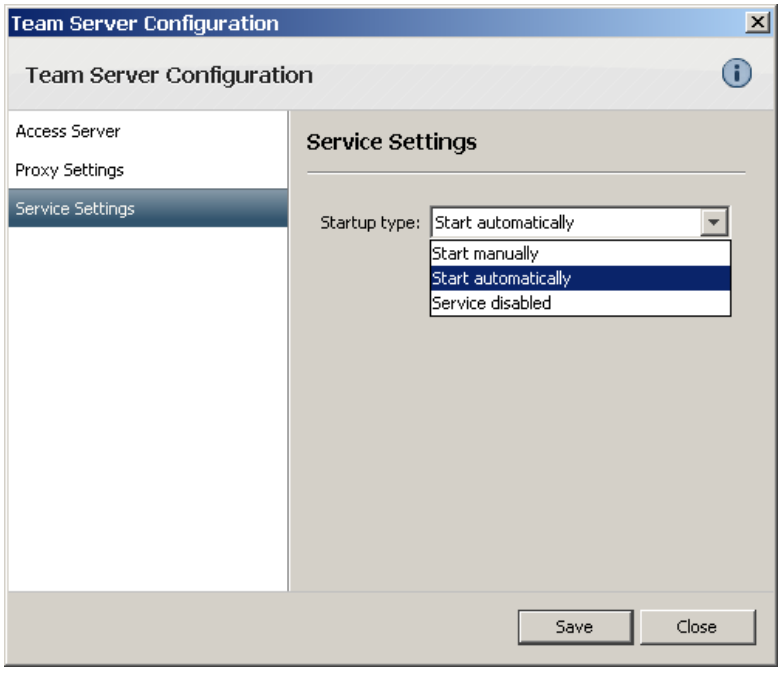
---

18 In the **Access Server** tab, enter a **User name** and **Password** of an account with permission to use the Team or Individual Ensemble Server and connect to the Access Server. (The **Access address** field displays the Access Server IP/hostname and port information entered earlier when installing the Ensemble Server.)

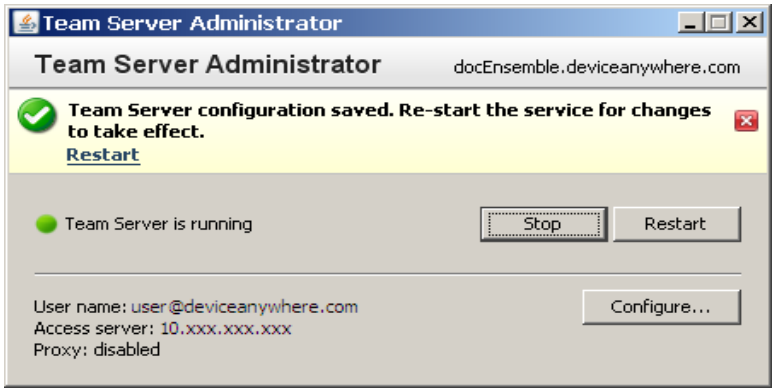


NOTE You can change the information in the **Access address** field at any time: Click the Ensemble Admin Tool icon on your desktop, click **Configure**, and select the **Access Server** tab.

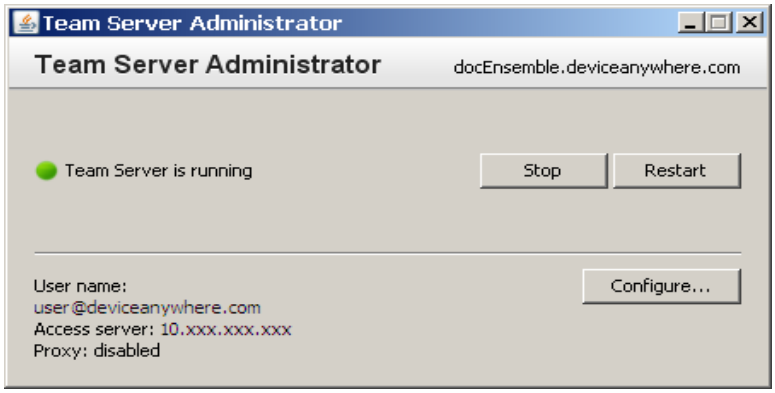
19 From the **Service Settings** tab, choose the best server startup option for your test environment and **Save** your setting. We recommend that you start the server automatically when the system is restarted (recommended).



20 The Administrator window now indicates that the configuration has been saved. Click **Restart** to restart the Ensemble Server.



The Administrator window indicates that the server is running.



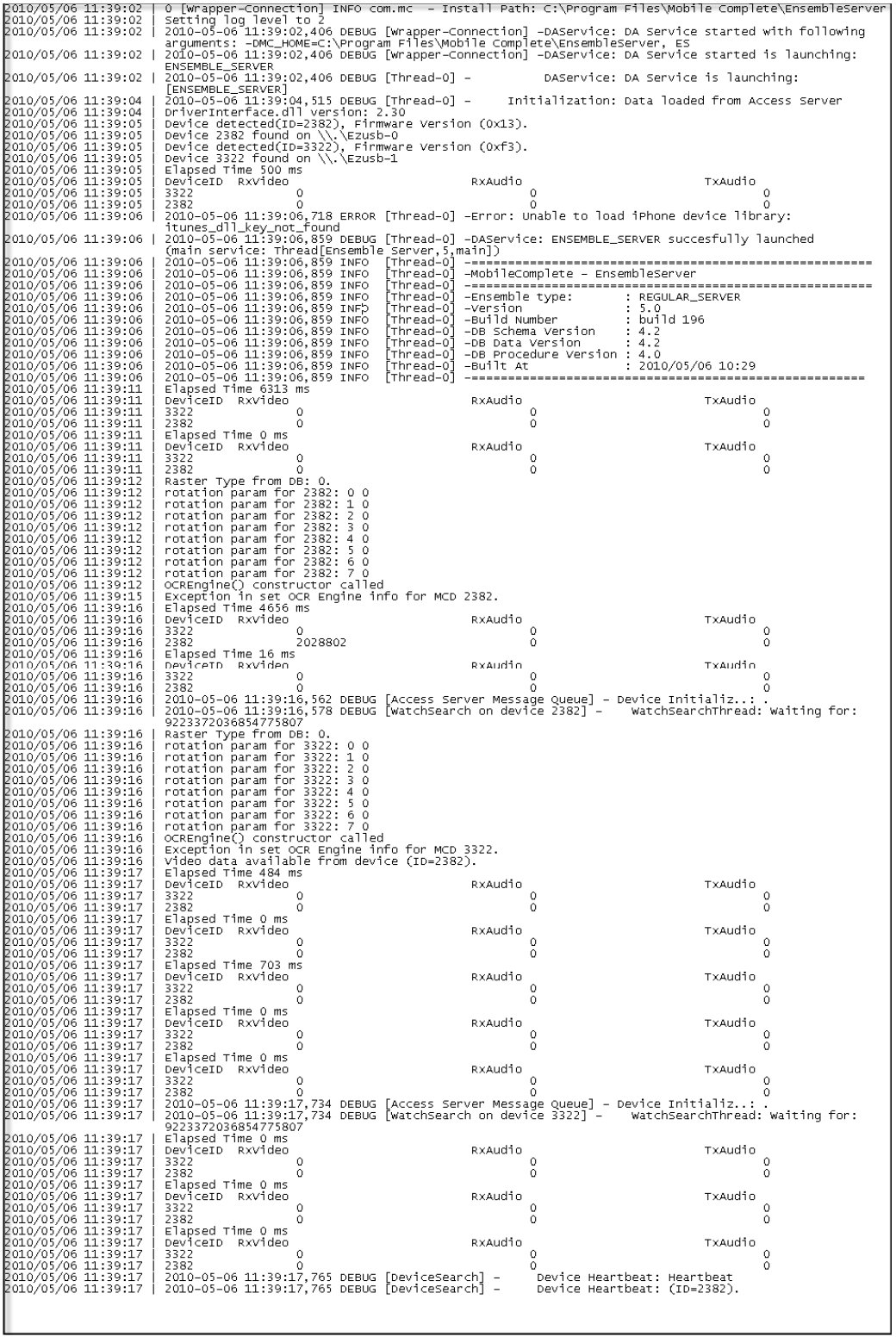
4.6.2 Verifying Ensemble Server Installation

When you have successfully installed and configured the Ensemble Server, you can verify the installation. Log files can be found at `C:\Program Files\DeviceAnywhere\EnsembleServer\logs`.

Verify in the log file that:

- The Ensemble Server has initialized loading data from Access Server.
- The Ensemble Server log file displays the correct build version and date.
- The Ensemble Server displays the heartbeat of any Ensemble devices that are connected to it (wirelessly, or via USB cable). A sample of the log is shown in the figure below.

Figure 4-6 Ensemble Server Log



```
2010/05/06 11:39:02 | 0 [Wrapper-Connection] INFO com.mc  - Install Path: C:\Program Files\Mobile Complete\EnsembleServer
2010/05/06 11:39:02 | Setting log level to 2
2010/05/06 11:39:02 | 2010-05-06 11:39:02,406 DEBUG [Wrapper-Connection] -DAService: DA Service started with following
                      arguments: -DMC_HOME=C:\Program Files\Mobile Complete\EnsembleServer, ES
2010/05/06 11:39:02 | 2010-05-06 11:39:02,406 DEBUG [Wrapper-Connection] -DAService: DA Service started is launching:
                      ENSEMBLE_SERVER
2010/05/06 11:39:02 | 2010-05-06 11:39:02,406 DEBUG [Thread-0] -          DAService: DA Service is launching:
                      [ENSEMBLE_SERVER]
2010/05/06 11:39:04 | 2010-05-06 11:39:04,515 DEBUG [Thread-0] -     Initialization: Data loaded from Access Server
2010/05/06 11:39:04 | DriverInterface.dll version: 2.30
2010/05/06 11:39:05 | Device detected(ID=2382), Firmware Version (0x13).
2010/05/06 11:39:05 | Device 2382 found on \\.\Ezusb-0
2010/05/06 11:39:05 | Device detected(ID=3322), Firmware Version (0xf3).
2010/05/06 11:39:05 | Device 3322 found on \\.\Ezusb-1
2010/05/06 11:39:05 | Elapsed Time 500 ms
2010/05/06 11:39:05 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:05 | 3322              0                                0                                0
2010/05/06 11:39:05 | 2382              0                                0                                0
2010/05/06 11:39:06 | 2010-05-06 11:39:06,718 ERROR [Thread-0] -Error: Unable to load iPhone device library:
                      itunes_dll_key_not_found
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 DEBUG [Thread-0] -DAService: ENSEMBLE_SERVER succesfully launched
                      (main service: Thread[Ensemble Server,5,main])
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -------------------------------------------------------
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -MobileComplete - EnsembleServer
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -------------------------------------------------------
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -Ensemble type:        : REGULAR_SERVER
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -Version               : 5.0
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -Build Number          : build 196
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -DB Schema Version     : 4.2
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -DB Data Version       : 4.2
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -DB Procedure Version : 4.0
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -Built At              : 2010/05/06 10:29
2010/05/06 11:39:06 | 2010-05-06 11:39:06,859 INFO  [Thread-0] -------------------------------------------------------
2010/05/06 11:39:11 | Elapsed Time 6313 ms
2010/05/06 11:39:11 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:11 | 3322              0                                0                                0
2010/05/06 11:39:11 | 2382              0                                0                                0
2010/05/06 11:39:11 | Elapsed Time 0 ms
2010/05/06 11:39:11 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:11 | 3322              0                                0                                0
2010/05/06 11:39:11 | 2382              0                                0                                0
2010/05/06 11:39:12 | Raster Type from DB: 0.
2010/05/06 11:39:12 | rotation param for 2382: 0 0
2010/05/06 11:39:12 | rotation param for 2382: 1 0
2010/05/06 11:39:12 | rotation param for 2382: 2 0
2010/05/06 11:39:12 | rotation param for 2382: 3 0
2010/05/06 11:39:12 | rotation param for 2382: 4 0
2010/05/06 11:39:12 | rotation param for 2382: 5 0
2010/05/06 11:39:12 | rotation param for 2382: 6 0
2010/05/06 11:39:12 | rotation param for 2382: 7 0
2010/05/06 11:39:12 | OCREngine() constructor called
2010/05/06 11:39:15 | Exception in set OCR Engine info for MCD 2382.
2010/05/06 11:39:16 | Elapsed Time 4656 ms
2010/05/06 11:39:16 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:16 | 3322              0                                0                                0
2010/05/06 11:39:16 | 2382              2028802                          0                                0
2010/05/06 11:39:16 | Elapsed Time 16 ms
2010/05/06 11:39:16 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:16 | 3322              0                                0                                0
2010/05/06 11:39:16 | 2382              0                                0                                0
2010/05/06 11:39:16 | 2010-05-06 11:39:16,562 DEBUG [Access Server Message Queue] - Device Initializ..: .
2010/05/06 11:39:16 | 2010-05-06 11:39:16,578 DEBUG [WatchSearch on device 2382] -    WatchSearchThread: Waiting for:
                      9223372036854775807
2010/05/06 11:39:16 | Raster Type from DB: 0.
2010/05/06 11:39:16 | rotation param for 3322: 0 0
2010/05/06 11:39:16 | rotation param for 3322: 1 0
2010/05/06 11:39:16 | rotation param for 3322: 2 0
2010/05/06 11:39:16 | rotation param for 3322: 3 0
2010/05/06 11:39:16 | rotation param for 3322: 4 0
2010/05/06 11:39:16 | rotation param for 3322: 5 0
2010/05/06 11:39:16 | rotation param for 3322: 6 0
2010/05/06 11:39:16 | rotation param for 3322: 7 0
2010/05/06 11:39:16 | OCREngine() constructor called
2010/05/06 11:39:16 | Exception in set OCR Engine info for MCD 3322.
2010/05/06 11:39:16 | Video data available from device (ID=2382).
2010/05/06 11:39:17 | Elapsed Time 484 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 703 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | 2010-05-06 11:39:17,734 DEBUG [Access Server Message Queue] - Device Initializ..: .
2010/05/06 11:39:17 | 2010-05-06 11:39:17,734 DEBUG [WatchSearch on device 3322] -    WatchSearchThread: Waiting for:
                      9223372036854775807
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | Elapsed Time 0 ms
2010/05/06 11:39:17 | DeviceID  RxVideo                          RxAudio                          TxAudio
2010/05/06 11:39:17 | 3322              0                                0                                0
2010/05/06 11:39:17 | 2382              0                                0                                0
2010/05/06 11:39:17 | 2010-05-06 11:39:17,765 DEBUG [DeviceSearch] -     Device Heartbeat: Heartbeat
2010/05/06 11:39:17 | 2010-05-06 11:39:17,765 DEBUG [DeviceSearch] -     Device Heartbeat: (ID=2382).
```

4.7 DeviceAnywhere Studio

DeviceAnywhere Studio is the client application that enables you to interact with Ensemble devices and create manual and automated tests in the Test Case Manager and Test Automation views. This section assumes you are installing the DeviceAnywhere Studio for the first time.

Before installation, you must gather the following information:

- The IP address and port of the DeviceAnywhere Access Server in your test environment
- Login credentials for DeviceAnywhere Studio

4.7.1 Connectivity Requirements

DeviceAnywhere Studio users must be able to connect to the Access Server by providing its IP address/machine name appended with the Access Server port (this documented in Installing DeviceAnywhere Studio on Windows below). If a user needs to access the test environment over the Internet, then external IP Address is required.

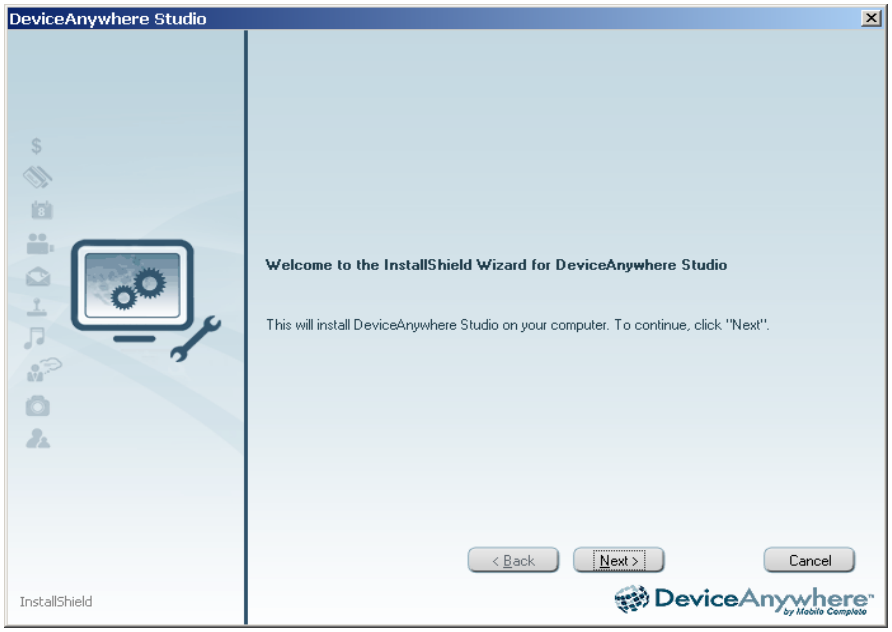
4.7.2 Installing DeviceAnywhere Studio on Windows

To install DeviceAnywhere Studio:

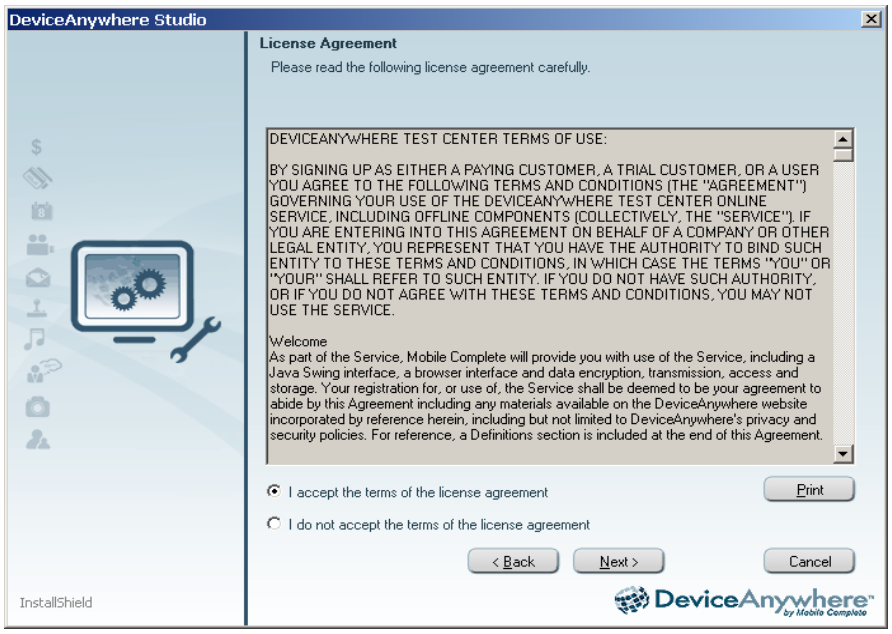
1 On the client machine, double-click the `DeviceAnywhereStudio.exe` installer and click **Run** to execute it.

Open File - Security Warning
Do you want to run this file?
Name: DeviceAnywhereStudioEnt.exe
Publisher: Mobile Complete, Inc.
Type: Application
From: C:\Documents and Settings\
Run
Cancel
Always ask before opening this file
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

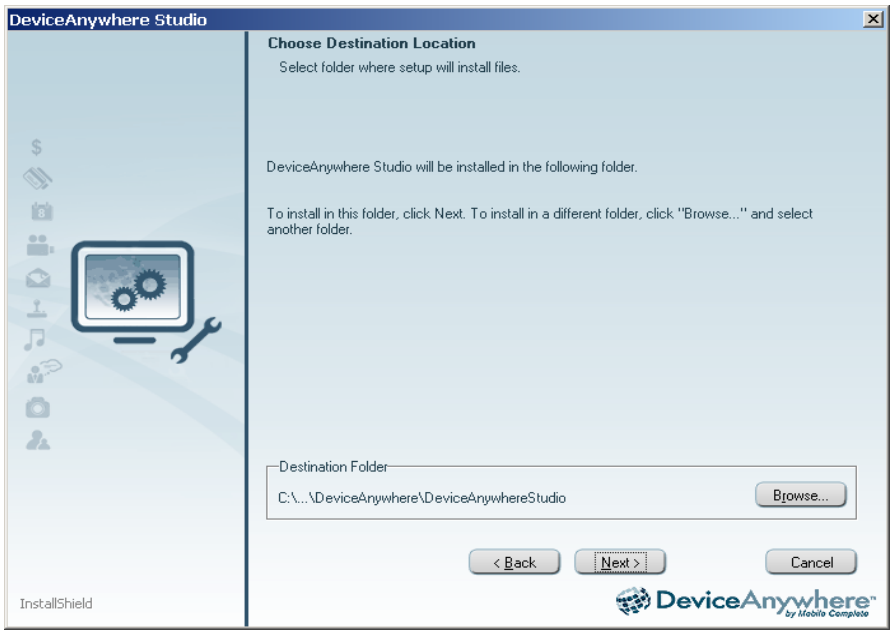
2 In the DeviceAnywhere Studio setup screen that appears, click **Next**.


DeviceAnywhere Studio
Welcome to the InstallShield Wizard for DeviceAnywhere Studio
This will install DeviceAnywhere Studio on your computer. To continue, click "Next".
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

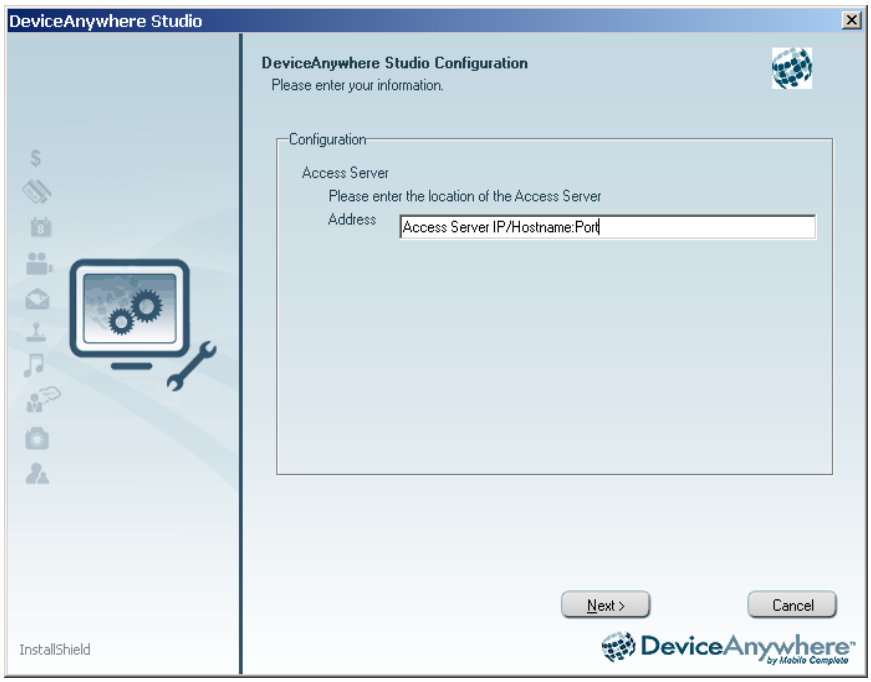
3 Accept the license terms and click **Next**.


DeviceAnywhere Studio
License Agreement
Please read the following license agreement carefully.
DEVICEANYWHERE TEST CENTER TERMS OF USE:
BY SIGNING UP AS EITHER A PAYING CUSTOMER, A TRIAL CUSTOMER, OR A USER YOU AGREE TO THE FOLLOWING TERMS AND CONDITIONS (THE "AGREEMENT") GOVERNING YOUR USE OF THE DEVICEANYWHERE TEST CENTER ONLINE SERVICE, INCLUDING OFFLINE COMPONENTS (COLLECTIVELY, THE "SERVICE"). IF YOU ARE ENTERING INTO THIS AGREEMENT ON BEHALF OF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS AND CONDITIONS, IN WHICH CASE THE TERMS "YOU" OR "YOUR" SHALL REFER TO SUCH ENTITY. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF YOU DO NOT AGREE WITH THESE TERMS AND CONDITIONS, YOU MAY NOT USE THE SERVICE.
Welcome
As part of the Service, Mobile Complete will provide you with use of the Service, including a Java Swing interface, a browser interface and data encryption, transmission, access and storage. Your registration for, or use of, the Service shall be deemed to be your agreement to abide by this Agreement including any materials available on the DeviceAnywhere website incorporated by reference herein, including but not limited to DeviceAnywhere's privacy and security policies. For reference, a Definitions section is included at the end of this Agreement.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

4 Choose an installation location in the local directory for DeviceAnywhere Studio. By default, this folder is `C:\ Program Files\DeviceAnywhere\DeviceAnywhereStudio`. Click **Next**. This will initiate installation.

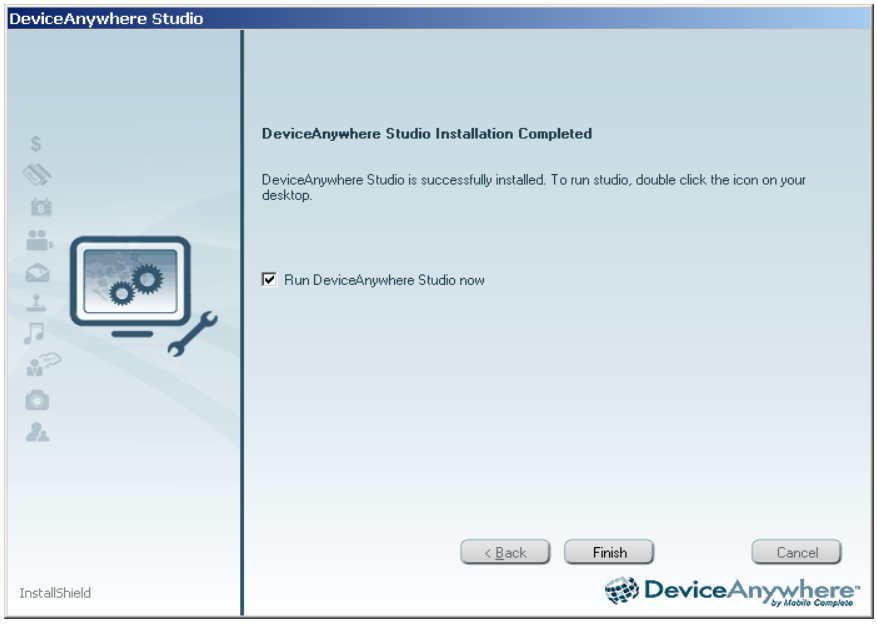

DeviceAnywhere Studio
Choose Destination Location
Select folder where setup will install files.
DeviceAnywhere Studio will be installed in the following folder.
To install in this folder, click Next. To install in a different folder, click "Browse..." and select another folder.
Destination Folder
C:\...\DeviceAnywhere\DeviceAnywhereStudio
Browse...
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

5 In the configuration screen, provide DeviceAnywhere Studio configuration information as shown in the table below and click **Next**.



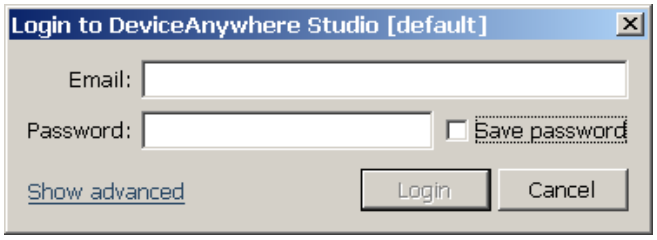
Field	Value
Address	Access Server IP/Hostname appended with port, e.g., `10.100.100.143:443` **NOTE** The default communication port on the Access Server is 443.

6 Select **Run DeviceAnywhere Studio now** and click **Finish**.



This will complete installation and launch DeviceAnywhere Studio. The DeviceAnywhere Studio shortcut is placed on your desktop.

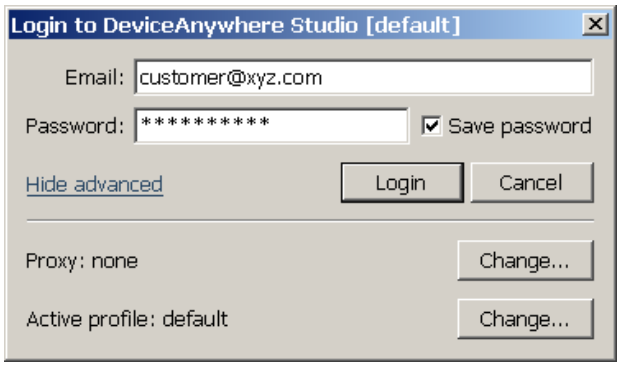
7 Enter your login credentials. These credentials are authenticated against the default profile—the Access Server IP/port information entered when you configured your installation. DeviceAnywhere Studio remembers the last used profile for subsequent logins.



NOTE You can always change/edit profile information.

a In the login dialog box, click **Show advanced**.

b Click the **Change** button next to **Active profile**.



You can edit profile information in the dialog box that appears.

4.7.3 Installing DeviceAnywhere Studio on Mac OS X

To install DeviceAnywhere Studio on Mac OS X:

1 Ensure that you have JDK v1.5+ on your client machine.

2 Copy `DeviceAnywhereStudio.tgz` from the distribution medium/site.

3 Drag the DeviceAnywhere Studio icon into the **Application** folder on your desktop.

4 Double-click **DeviceAnywhere Studio** in your **Application** folder to launch the program.

5 Enter your credentials and select **Login**.

4.8 Ensemble Devices

You should have received device profile XML files from DeviceAnywhere. Each XML file contains important device-related information that is essential to using the device in DeviceAnywhere. Before connecting an Ensemble device, the accompanying XML file must be imported into the database. If you do not have the XML file for any of your Ensemble devices, contact your TAM.

Adding a new device to the DeviceAnywhere test environment involves:

1 Importing device profile XML file:

a For hardware-integrated devices, the device profile XML file is imported directly into the SQL database. This process is documented in Importing a Device to the Database below.

b Software-integrated devices must be onboarded, or attached, to the DeviceAnywhere Ensemble Server through DeviceAnywhere Studio. This process is documented in the platform-specific smartphone setup guides available on the DeviceAnywhere documentation Web page.

2 Assigning the device to a package(s)

3 Assigning the package to user group(s)

4 Verifying the device

4.8.1 Importing a Device to the Database

To import a hardware-integrated device into the system:

1 On the Access Server, copy the `ImportDevice.bat` file from `C:\Program Files\DeviceAnywhere\AccessServer\config` and paste it into `C:\Program Files\DeviceAnywhere\Access Server\`.

2 Copy the device profile XML file for each device to the `C:\Program Files\DeviceAnywhere\Access Server\` directory on the same machine.

3 Edit the `ImportDevice.bat` file as follows:

a Change the first line from `set MC_HOME =..` to `set MC_HOME=.` (i.e., remove a period.)

b Then update the following line by adding the name of the XML file to import at the end of the line, as shown below:

```
%JAVA_HOME%\bin\java -classpath %GENCLASSES% -Xmx500M
-DMC_HOME=%MC_HOME% com.mc.utils.ImportDeviceToDatabase MCD00123.xml
```

NOTE You can import more than one device at a time by adding the above statement for each device XML file you want to add to the system.

```
set MC_HOME=.
set JAVA_HOME=%MC_HOME%\jdk

set GENCLASSES="%MC_HOME%\classes;%MC_HOME%\jars\mc-access.jar;%MC_HOME%\jars\log4j-1.2.13.jar;%
MC_HOME%\jars\msbase.jar;%MC_HOME%\jars\mssqlserver.jar;%MC_HOME%\jars\msutil.jar;%MC_HOME%
\jars\xercesImpl.jar;%MC_HOME%\jars\xercesSamples.jar;%MC_HOME%\jars\xml-apis.jar;%MC_HOME%
\jars\xmlParserAPIs.jar;%JAVA_HOME%\demo\jfc\Java2D\Java2Demo.jar;%JAVA_HOME%
\demo\plugin\jfc\Java2D\Java2Demo.jar;%JAVA_HOME%\jre\javaws\javaws.jar;%JAVA_HOME%\jre\lib\charsets.jar;%
JAVA_HOME%\jre\lib\ext\dnsns.jar;C:\jdk1.4.2\jre\lib\ext\ldapsec.jar;%JAVA_HOME%\jre\lib\ext\localedata.jar;%
JAVA_HOME%\jre\lib\ext\sunjce_provider.jar;C:\jdk1.4.2\jre\lib\im\indicim.jar;%JAVA_HOME%\jre\lib\im\thaiim.jar;%
JAVA_HOME%\jre\lib\jce.jar;%JAVA_HOME%\jre\lib\jsse.jar;%JAVA_HOME%\jre\lib\plugin.jar;%JAVA_HOME%
\jre\lib\rt.jar;%JAVA_HOME%\jre\lib\sunrsasign.jar;%JAVA_HOME%\lib\dt.jar;%JAVA_HOME%\lib\htmlconverter.jar;%
JAVA_HOME%\lib\tools.jar;%MC_HOME%\jars\sqljdbc.jar"

%JAVA_HOME%\bin\java -classpath %GENCLASSES%  -Xmx500m -DMC_HOME=%MC_HOME%
com.mc.utils.ImportDeviceToDatabase mcd5617.xml
```

c Save and close the `ImportDevice.bat` file.

4 From a DOS prompt, navigate to `C:\Program Files\DeviceAnywhere\Access Server\` and execute `ImportDevice.bat`. The device XML(s) will be imported to the database.

4.8.2 Provisioning Packages with Devices

When a device profile is imported into the SQL database, the device can be selected and assigned to packages using tools in the DeviceAnywhere Portal. By default, imported devices are assigned to the All Devices package.

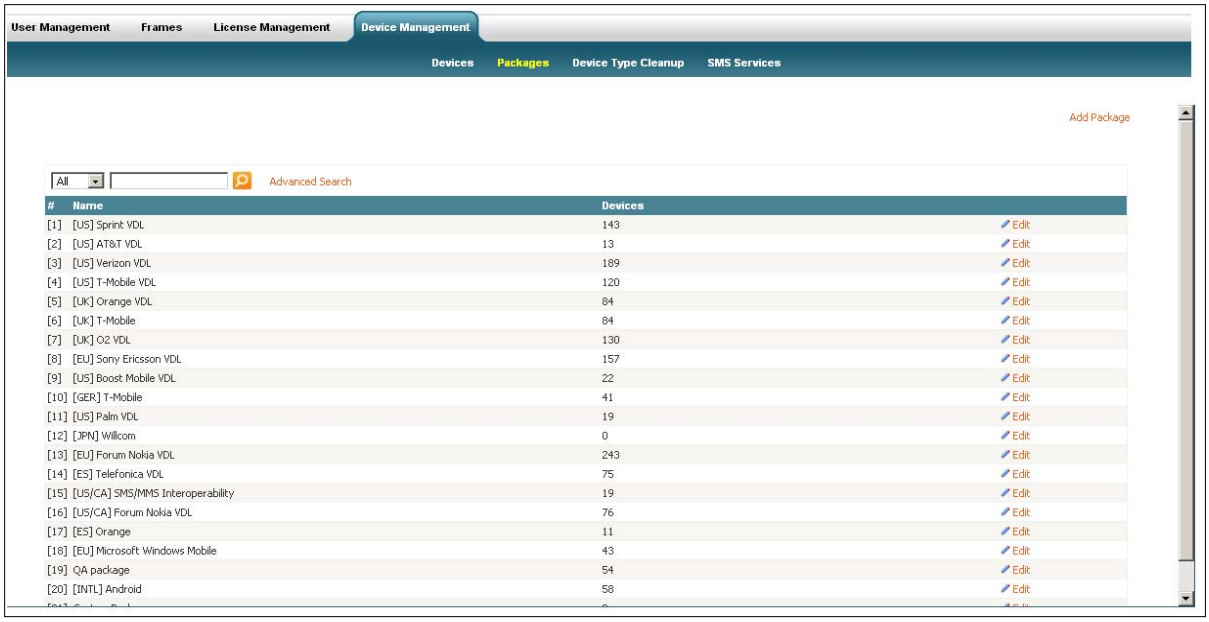
NOTE Only a user with the Account Admin role can add and provision packages in the DeviceAnywhere Portal.

To provision a package with devices:

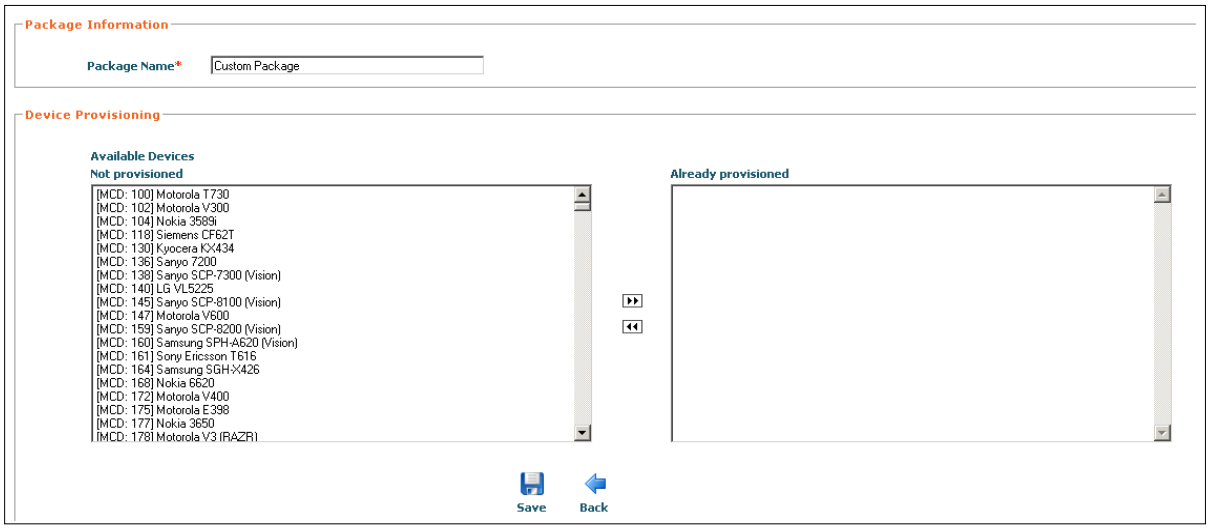
1 Log in to the DeviceAnywhere Portal.

2 Select the **Device Management** link.

3 Select the **Packages** tab.


User Management
Frames
License Management
Device Management
Devices
Packages
Device Type Cleanup
SMS Services
Add Package
All
Advanced Search
Name Devices
[1] [US] Sprint VDL 143 Edit
[2] [US] AT&T VDL 13 Edit
[3] [US] Verizon VDL 189 Edit
[4] [US] T-Mobile VDL 120 Edit
[5] [UK] Orange VDL 84 Edit
[6] [UK] T-Mobile 84 Edit
[7] [UK] O2 VDL 130 Edit
[8] [EU] Sony Ericsson VDL 157 Edit
[9] [US] Boost Mobile VDL 22 Edit
[10] [GER] T-Mobile 41 Edit
[11] [US] Palm VDL 19 Edit
[12] [JPN] Willcom 0 Edit
[13] [EU] Forum Nokia VDL 243 Edit
[14] [ES] Telefonica VDL 75 Edit
[15] [US/CA] SMS/MMS Interoperability 19 Edit
[16] [US/CA] Forum Nokia VDL 76 Edit
[17] [ES] Orange 11 Edit
[18] [EU] Microsoft Windows Mobile 43 Edit
[19] QA package 54 Edit
[20] [INTL] Android 58 Edit

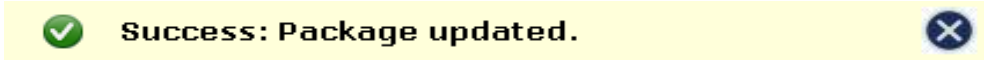
4 Click the **Edit** link next to the package you wish to provision. This displays the list of devices available in the **Not provisioned** pane at screen left.



5 Select a device from the list and click the right arrow to move it to the list of provisioned devices (**Already provisioned**).

6 Repeat this step to select your devices.

7 **Save** your changes. The Portal displays a message that the package has been updated.



This feature allows you to group devices into packages and for assigning to different user groups. Having multiple packages allows you to assign only those devices that are relevant to a specific set of users.

4.8.3 Assigning Packages to User Groups

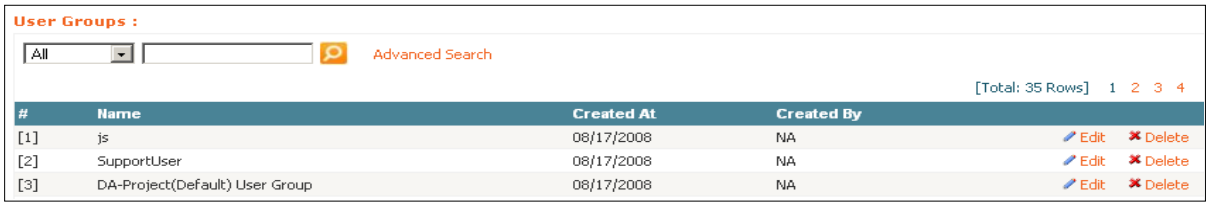
NOTE Only a user with the Account Admin role can assign packages to user groups in the DeviceAnywhere Portal.

To assign a package:

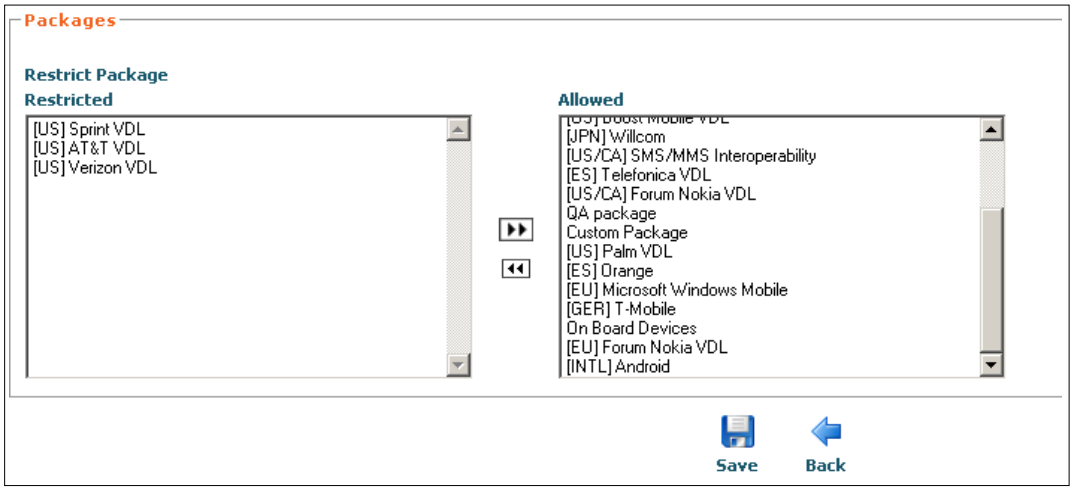
1 Log in to the DeviceAnywhere Portal.

2 Select the **User Management** link.

3 From the **User Groups** section, click **Edit** next to the user group you wish to assign a package to.

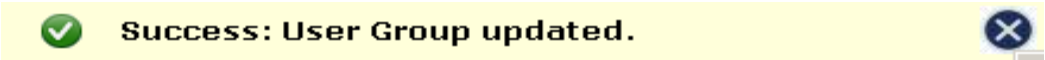

User Groups :
All
Advanced Search
[Total: 35 Rows] 1 2 3 4
Name Created At Created By
[1] js 08/17/2008 NA Edit Delete
[2] SupportUser 08/17/2008 NA Edit Delete
[3] DA-Project(Default) User Group 08/17/2008 NA Edit Delete

4 In the **Packages** section, select a package from the **Restricted** pane and click the right arrow to move it to the list of **Allowed** packages.



5 Repeat this step to assign as many packages as you wish to the group.

6 **Save** your changes. The Portal displays a message that the user group has been updated.



4.8.4 Verifying Device Installation

You must install and launch DeviceAnywhere Studio to verify devices. Log in to DeviceAnywhere Studio. You should see provisioned devices appear online. You should be able to right-click and acquire any device to begin interacting with it.

5 DeviceAnywhere Standalone Installer

This chapter describes the single, integrated procedure for installing the bundled components in the DeviceAnywhere standalone installer, `DeviceAnywhereSingleInstallationPackage.exe`. The bundled components in the standalone installer are deployed on a single machine to provision a small deployment (see System Size and Topology and the System Requirements for the standalone installer). The DeviceAnywhere Ensemble Server (with attached Ensemble devices) is installed on a separate machine.

The standalone installer provided by DeviceAnywhere consists of the following bundled components:

- SQL Server 2005, Express database software
- DeviceAnywhere database
- Access Server
- DeviceAnywhere Portal
- .NET 3.5 runtime framework
- Microsoft ASP .NET 2.0 AJAX Extension (ASP AJAX 1.0)
- Microsoft WSE 3.0

NOTES Please consult your DeviceAnywhere TAM to ensure that using the standalone installer is the right deployment option for your mobile testing needs.

Components of the DeviceAnywhere test environment require a network connection to communicate with each other.

The Express Edition of Microsoft SQL Server 2005 only supports databases up to 4GB in size.

.NET 3.5, the ASP AJAX Extension, and WSE are required for the DeviceAnywhere Portal.

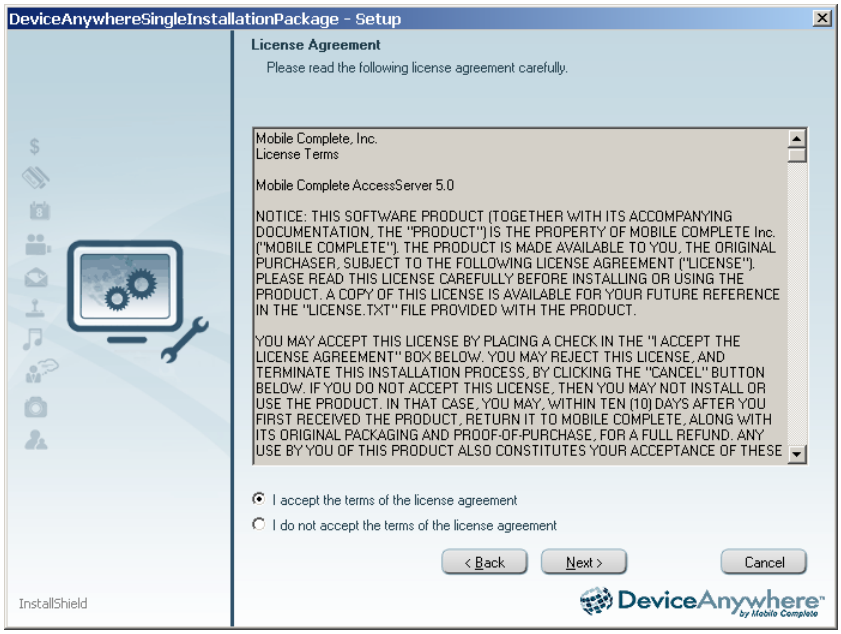
To install bundled DeviceAnywhere components:

1 Double-click the standalone installer (`DeviceAnywhereSingleInstallationPackage.exe`) to execute it.

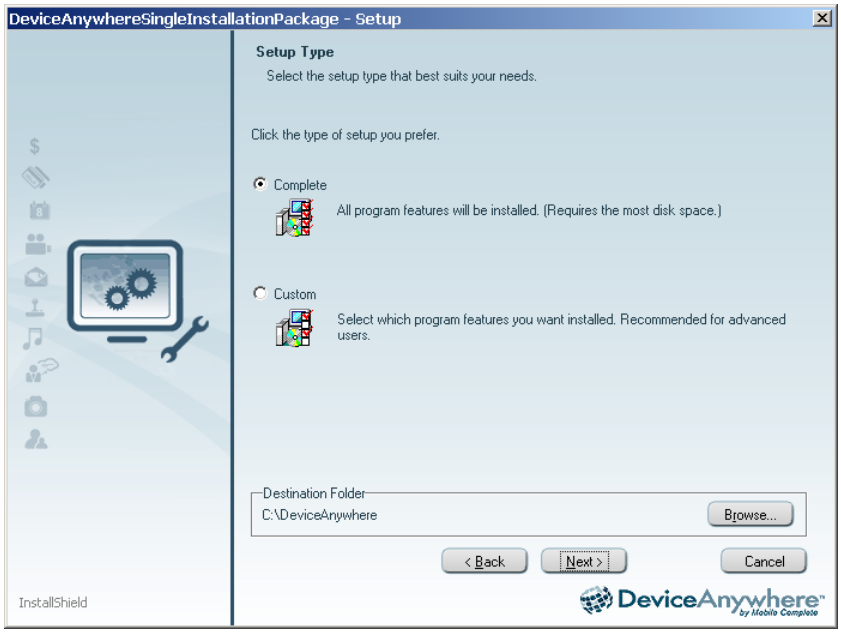
2 Click **Next** in the Setup screen that appears.

DeviceAnywhereSingleInstallationPackage - Setup
Welcome to the InstallShield Wizard for DeviceAnywhereSingleInstallationPackage Suite
The InstallShield® Wizard will install DeviceAnywhereSingleInstallationPackage Suite on your computer. To continue, click Next.
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

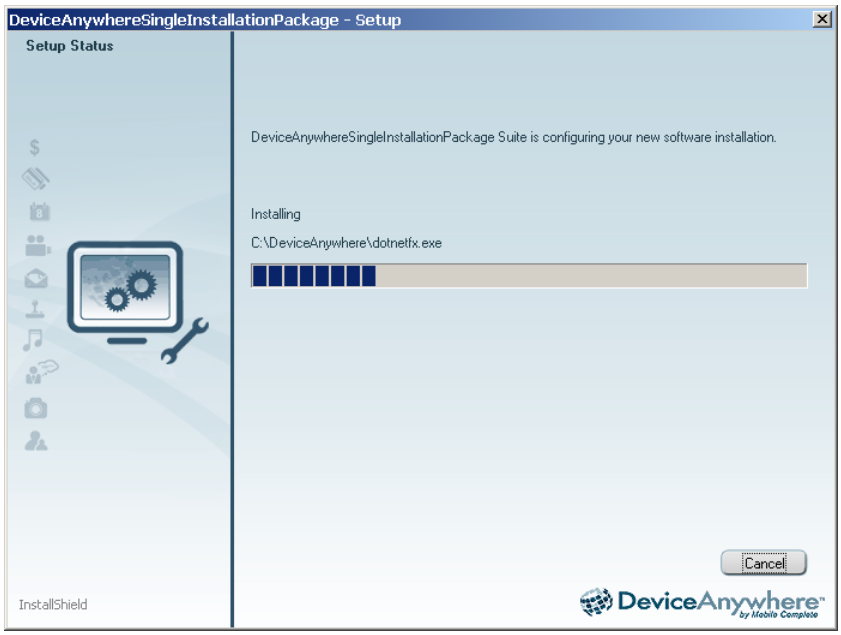
3 Accept the license terms and click **Next**.


DeviceAnywhereSingleInstallationPackage - Setup
License Agreement
Please read the following license agreement carefully.
Mobile Complete, Inc.
License Terms
Mobile Complete AccessServer 5.0
NOTICE: THIS SOFTWARE PRODUCT (TOGETHER WITH ITS ACCOMPANYING DOCUMENTATION, THE "PRODUCT") IS THE PROPERTY OF MOBILE COMPLETE Inc. ("MOBILE COMPLETE"). THE PRODUCT IS MADE AVAILABLE TO YOU, THE ORIGINAL PURCHASER, SUBJECT TO THE FOLLOWING LICENSE AGREEMENT ("LICENSE"). PLEASE READ THIS LICENSE CAREFULLY BEFORE INSTALLING OR USING THE PRODUCT. A COPY OF THIS LICENSE IS AVAILABLE FOR YOUR FUTURE REFERENCE IN THE "LICENSE.TXT" FILE PROVIDED WITH THE PRODUCT.
YOU MAY ACCEPT THIS LICENSE BY PLACING A CHECK IN THE "I ACCEPT THE LICENSE AGREEMENT" BOX BELOW. YOU MAY REJECT THIS LICENSE, AND TERMINATE THIS INSTALLATION PROCESS, BY CLICKING THE "CANCEL" BUTTON BELOW. IF YOU DO NOT ACCEPT THIS LICENSE, THEN YOU MAY NOT INSTALL OR USE THE PRODUCT. IN THAT CASE, YOU MAY, WITHIN TEN (10) DAYS AFTER YOU FIRST RECEIVED THE PRODUCT, RETURN IT TO MOBILE COMPLETE, ALONG WITH ITS ORIGINAL PACKAGING AND PROOF-OF-PURCHASE, FOR A FULL REFUND. ANY USE BY YOU OF THIS PRODUCT ALSO CONSTITUTES YOUR ACCEPTANCE OF THESE
I accept the terms of the license agreement
I do not accept the terms of the license agreement
< Back
Next >
Cancel
InstallShield
DeviceAnywhere

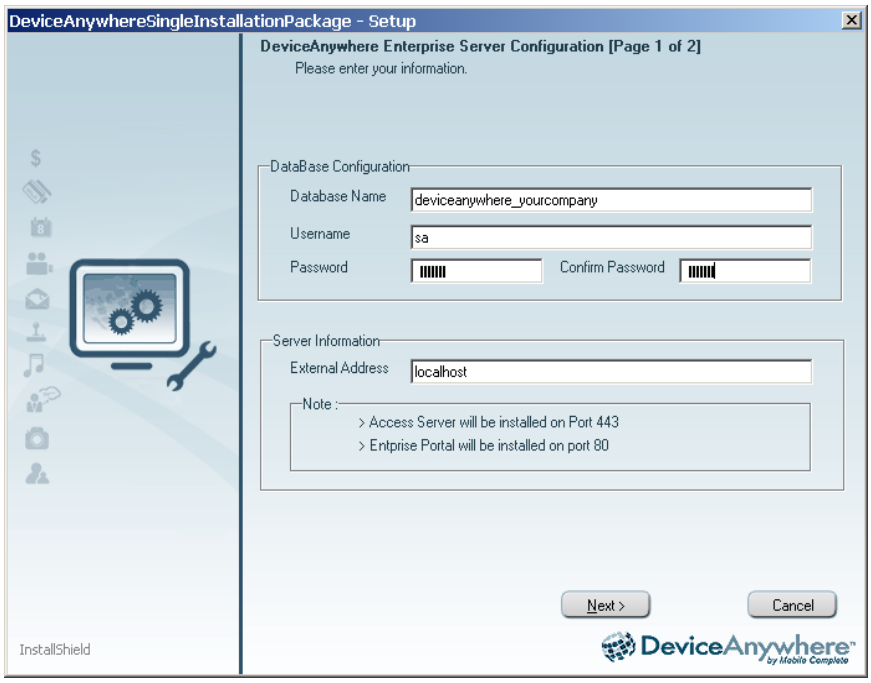
4 Choose the **Complete** installation type and click **Next**. (This installs SQL Server 2005 software.)



The wizard indicates the progress of the installation.

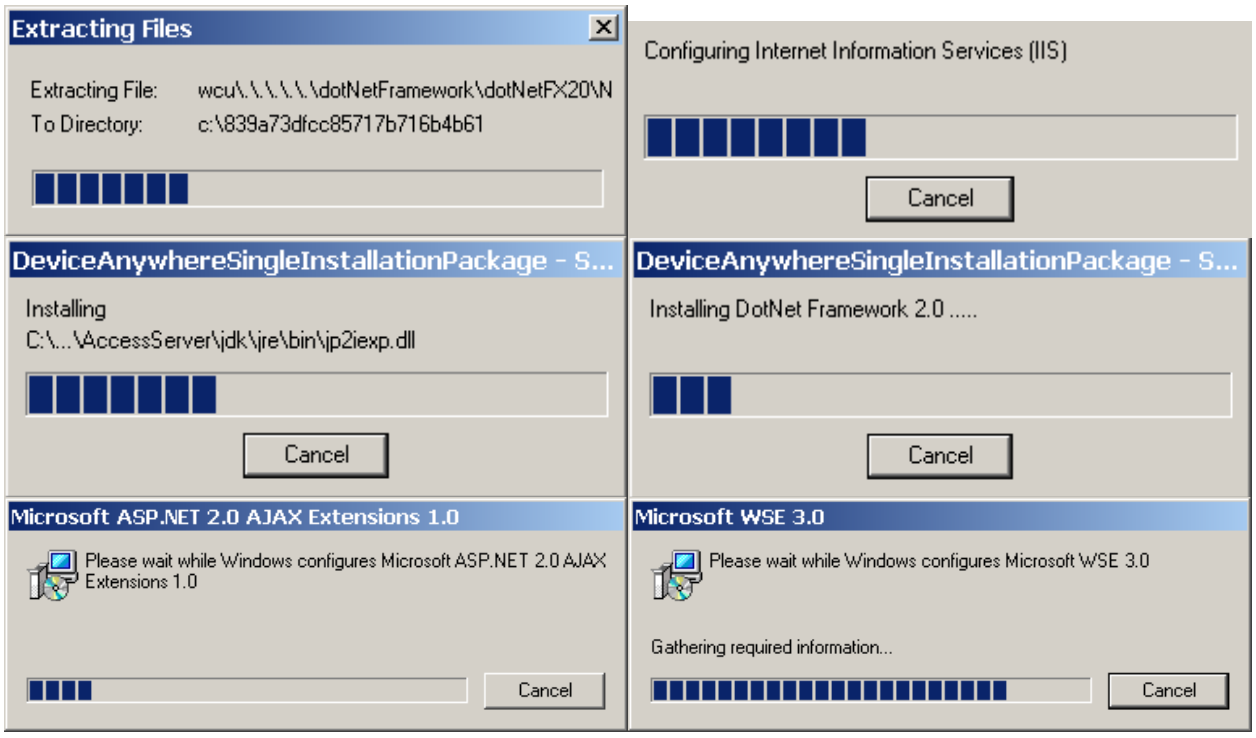


5 In the configuration screen, fill out configuration information as shown in the table below and click **Next**.

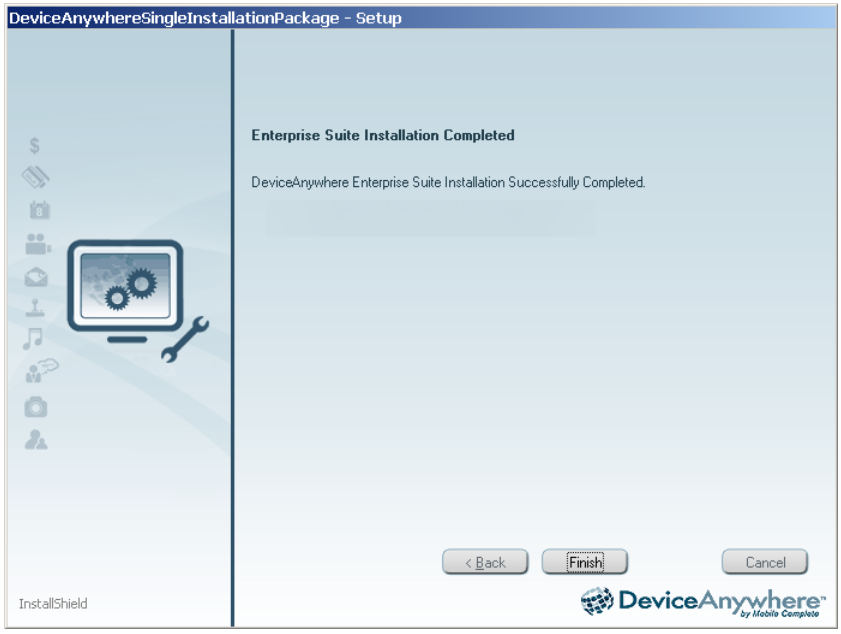


Field	Value
Database Name	Name for the DeviceAnywhere database
Username	Database Server login ID **NOTE** The Access Server and DeviceAnywhere Portal use JDBC to connect to the Database Server. This requires SQL Server Authentication. Provide a user ID and password with the proper SQL Server Authentication permissions. You can use the `sa` account.
Password	Enter a password you wish to use for the Database Server account—reconfirm the password.
External Address	IP/hostname of the machine hosting the bundled DeviceAnywhere installation

Wizard screens indicate the progress of installation and display the name of components as they are being installed or configured.



6 Click **Finish** to complete installation and exit the wizard.



6 DeviceAnywhere System Verification

This section provides a few test scenarios to validate your DeviceAnywhere test environment.

6.1 Restarting the Access Server

Restarting the Access Server restarts all the software components in the DeviceAnywhere installation. On occasion, some DeviceAnywhere components might not restart automatically. As DeviceAnywhere software servers run as a service, you can restart them from the Services menu.

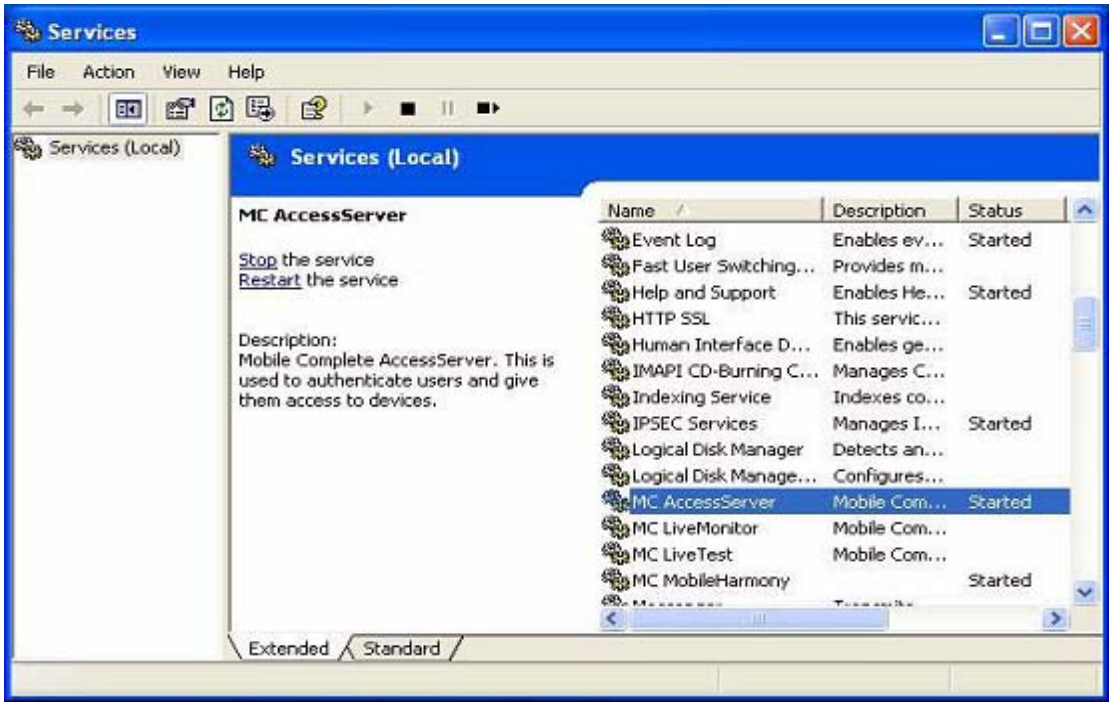
The Access Server can be restarted as follows:

1 Select **Start** > **Run**.

2 Type **`services.msc`** in the command window and press Enter.

NOTE You can also access services by selecting **Start** > **Control Panel** > **Administrative Tools** > **Services**.

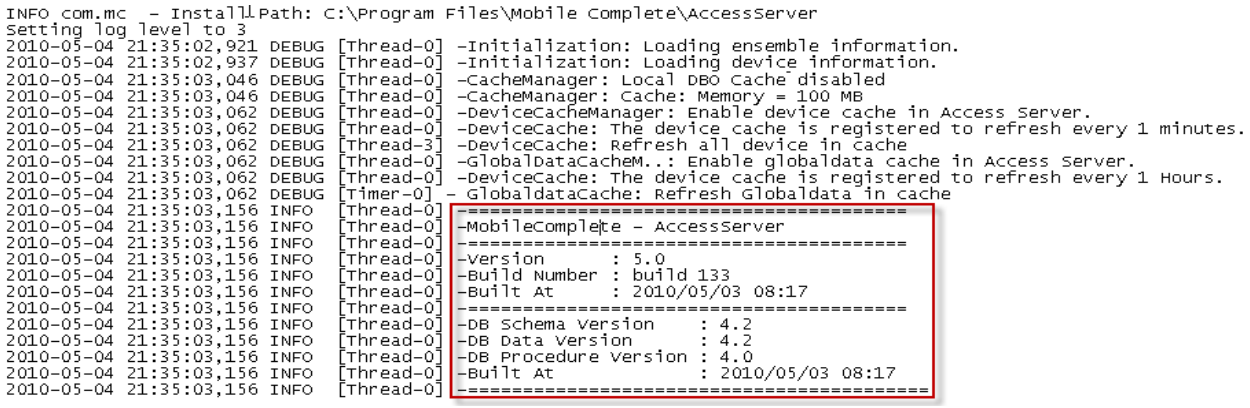
3 Select the **MC AccessServer** service.



4 Select **Restart**.

You can view the log of the Access Server using a real-time log monitor (such as the Tail utility). To verify installation, check in the log that the Access Server is properly initialized with the build date and database information clearly displayed (see the highlighted area in the image below).

Figure 6-1 Access Server Log


INFO com.mc - Install Path: C:\Program Files\Mobile Complete\AccessServer
Setting log level to 3
2010-05-04 21:35:02,921 DEBUG [Thread-0] -Initialization: Loading ensemble information.
2010-05-04 21:35:02,937 DEBUG [Thread-0] -Initialization: Loading device information.
2010-05-04 21:35:03,046 DEBUG [Thread-0] -CacheManager: Local DBO Cache disabled
2010-05-04 21:35:03,046 DEBUG [Thread-0] -CacheManager: Cache: Memory = 100 MB
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCacheManager: Enable device cache in Access Server.
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCache: The device cache is registered to refresh every 1 minutes.
2010-05-04 21:35:03,062 DEBUG [Thread-3] -DeviceCache: Refresh all device in cache
2010-05-04 21:35:03,062 DEBUG [Thread-0] -GlobalDataCacheM..: Enable globaldata cache in Access Server.
2010-05-04 21:35:03,062 DEBUG [Thread-0] -DeviceCache: The device cache is registered to refresh every 1 Hours.
2010-05-04 21:35:03,062 DEBUG [Timer-0] - GlobaldataCache: Refresh Globaldata in cache
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -MobileComplete - AccessServer
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -Version : 5.0
2010-05-04 21:35:03,156 INFO [Thread-0] -Build Number : build 133
2010-05-04 21:35:03,156 INFO [Thread-0] -Built At : 2010/05/03 08:17
2010-05-04 21:35:03,156 INFO [Thread-0] ---
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Schema Version : 4.2
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Data Version : 4.2
2010-05-04 21:35:03,156 INFO [Thread-0] -DB Procedure Version : 4.0
2010-05-04 21:35:03,156 INFO [Thread-0] -Built At : 2010/05/03 08:17
2010-05-04 21:35:03,156 INFO [Thread-0] ---

6.2 Verifying DeviceAnywhere Functionality

This section lists functional tests to exercise DeviceAnywhere core functions. If you can perform these tests without generating an error message, then the DeviceAnywhere test environment should be considered successfully installed.

Table 6-1 DeviceAnywhere Core Functionalities Verification

#	Test Name	Description	Expected Result
1	Studio login test	Log in to DeviceAnywhere Studio with correct credentials.	Verify that DeviceAnywhere Studio is launched successfully.
2	Device lock/unlock	Select a package and lock/unlock any device.	Device is acquired and released successfully.
3	Key press	Click a few keys on the device to verify that it accepts input.	The device accepts inputs and the screen updates to reflect the inputs.
4	LCD test	Navigate the device applications to test that the LCD display is properly updated.	The LCD screen on the device is displayed clearly in DeviceAnywhere Studio.
5	Create action/state/test case (for Test Automation Customers)	In the Test Automation view, create an action, state, and test case. Execute the action and the test case and upload the results. Check results in the Portal.	Action and test case are executed successfully and results are uploaded to the Portal.
6	DeviceAnywhere Portal configuration in DeviceAnywhere Studio/Access Server	Check Portal configuration in DeviceAnywhere Studio and the Access Server.	Verify that the Portal is configured properly in DeviceAnywhere Studio and Access Server by uploading the test case execution result.